Discover Video

DEVOS

User Guide

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Discover Video LLC
www.discovervideo.com

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Chapter 1: Introduction

This section will describe:

- ✓ Purpose
- ✓ General Description
- ✓ Typical Use Cases

Purpose

The Discover Video DEVOS is a powerful live and on-demand video delivery system for offices, schools, corporate departments, government agencies, and other enterprises. In addition to providing live and on-demand video to desktops, iPhones, iPads and other devices, DEVOS provides an emergency communications system called "Priority Alert", provides Digital Signage, and can broadcast live and on-demand video on the public Internet. DEVOS delivers content to virtually all modern devices including PC, MAC, iPhone, iPad, Android, and Roku boxes.

General Description

DEVOS consists of a physical server or hosted Cloud, and is available in multiple sizes and capacities. Any number of optional low cost multimedia encoders (DVME) may be used to create live or recorded video streams that are distributed to viewers via the DEVOS server. The system is self-contained and requires no special integration. It is generally "plug and play", allowing you to be up and operational in minutes. It is used and managed via its web page interfaces which are compatible with virtually all modern browsers, including Smartphones.

Typical Use Cases

The purpose of video distribution within an enterprise is varied, but the installation and operation are generally the same regardless of the purpose. Here are a few typical use cases:

K-12 School

- Deliver live or recorded "morning announcements" to every classroom
- Cause any live or recorded video to be displayed on one, some, or all computers without a teacher needing to do anything -- for emergency alerts, notifications, "morning announcements", etc.
- Eliminate classroom VCR/DVD's and deliver all education and enrichment content from a server
- Conduct live webcasts of sporting events, both locally within the school and on the public Internet
- Empower educators to make their own multimedia enrichment content for students to view on desktop, iPads, iPhone, etc.
- Capture lectures, including audio, video, and the computer screen (e.g. PowerPoint, demonstrations, etc.), broadcast it live and/or make it available for on-demand viewing
- Make selected live "TV Channels" available for viewing and eliminate legacy analog coax infrastructure
- Display video, text, and images for Digital Signage

College / University

- Record lectures for on-demand viewing
- Provide enrichment videos for students
- Provide emergency notification service with live, timely instruction delivered from proper authorities
- Display "digital signage" welcome videos in lobbies and common areas

Corporate / Business

- Conduct monthly "CEO Address" to all employees, both in the office and to remote workers
- Provide professional development training videos to employees
- Capture the wisdom of Subject Matter Experts (SMEs) so that others can benefit, without the cost or complexity of a professional studio
- Provide emergency notification to all employees via their workplace computer
- Display corporate videos, news, and information on monitors in corporate lobby and in common areas using Digital Signage

Financial Industries

- Deliver live financial news network feeds to all traders and other people to provide timely information
- Provide industry-specific videos for on-demand viewing
- Display the latest news on monitors via Digital Signage

Healthcare

- Provide a library of health videos to everyone in the organization, and/or to patents/customers.
- Distribute live broadcast TV
- Display news and information on monitors in common areas via Digital Signage

Government

- Enable "Open Government" by broadcasting council meetings and other public events.
- Record and make government meetings available for on-demand viewing

Non-Profits

- Encourage more participation by making your mission more visible, more understandable, more compelling

System Description and Architecture

The DEVOS system consists of the DEVOS server, one or more DVME encoders, and existing desktop computers and iPads/iPhones, and other clients.

The DEVOS Media Server provides live and Video-on-Demand (VoD) delivery via RTMP, RTSP, HLS, and progressive download technologies. It is the heart of the system and provides all database, administration, storage, control functions, and user interfaces.

Live video streams are created using the Discover Video Multimedia Encoder (DVME) which can be controlled by DEVOS. Other live video streaming encoders may also be used, as well as existing public video streams.

Video files are created using DVME when capturing live events or when encoding a file from a video tape or from other sources. DVME will automatically upload recordings to DEVOS. Other file encoders may also be used.

Viewing of live and VoD uses Flash player (Version 11 or above) or HTML5 for desktops, and is supported on PC and Mac, and in IE, Chrome, Firefox, and Safari browsers. DEVOS delivers live and VoD to iPad/iPhone and Android[1] users.

PC Desktops may be equipped with the Discover Video Priority Alert program. DEVOS may then issue video, text, or web page alerts to one, some, or all desktops without the desktop user needing to take any action.

DEVOS supports video signage using the Discover Video Soft Top Box®, the built-in Digital Signage web player, and/or Samsung Smart TV. Digital Signage allows you to

[1] Some early Android devices may not support live video

display any live or VoD content on unattended TV's or computer monitors and to display text, RSS feeds, or web pages.

DEVOS allows you to add YouTube videos to your VoD list, and to incorporate many public live streams into your live video lineup.

DEVOS allows you to view your live and VoD content on inexpensive Roku Set Top Boxes.

DEVOS supports Active Directory, and allows you to give publishing privileges to multiple administrators, and to enable viewers to log in using their existing credentials.

DEVOS supports master / slave configuration which allows slave units to be deployed at remote branch offices to distribute live video. Each DEVOS slave then delivers the live video to office viewers locally rather than those viewers each consuming bandwidth and capacity from the DEVOS master. This master / slave arrangement provides a highly scalable solution for live video distribution, even on bandwidth limited networks.

The slave units are completely automatic. Just plug them in and they contact the master and exchange information. When a viewer in a location with a slave watches a live video, it automatically delivered from the slave rather than from the master.

Chapter 2: Administration

This section will describe:

- ✓ Installation
- ✓ Operation

Installation & Configuration

Setup is as simple as providing power and a conventional 10/100/1000 Ethernet connection. The network should also have access to the public Internet (to allow push/pull streaming, include YouTube videos, and perform other functions).

For DEVOS server on your premises: To change the IP address or make other server settings adjustments, use a keyboard, mouse, and monitor (not provided) and log in to server using the default admin login:

Username: Administrator
Password: [unique password provided by Discover Video]

If you are not familiar with Windows server settings, see Windows documentation or contact your Discover Video channel partner for help. If you change the administrator password, be sure to write it down and keep it in a safe place.

Warning! If you change the administrator username or password, you must also adjust the security settings for scheduled tasks.

DHCP vs. static IP

By default, DEVOS server is set to obtain an IP address via DHCP. While you can successfully use DHCP for the server, it is recommended that you set the server to use a static IP address. Your network administrator may set up a local DNS entry for the server so that you can reach it using a convenient name.

If your DEVOS server has multiple network ports, you may elect to configure one port for your inside network (e.g. 192.168.1.101) and the other for the outside, public Internet (e.g. xxx.xxx.xxx.xxx). Other network configurations are possible such as using multiple network ports for increased capacity, etc. DEVOS hardware is usually configured for NIC teaming, which provides multiple network interfaces on the same IP address for increased capacity.

Administration

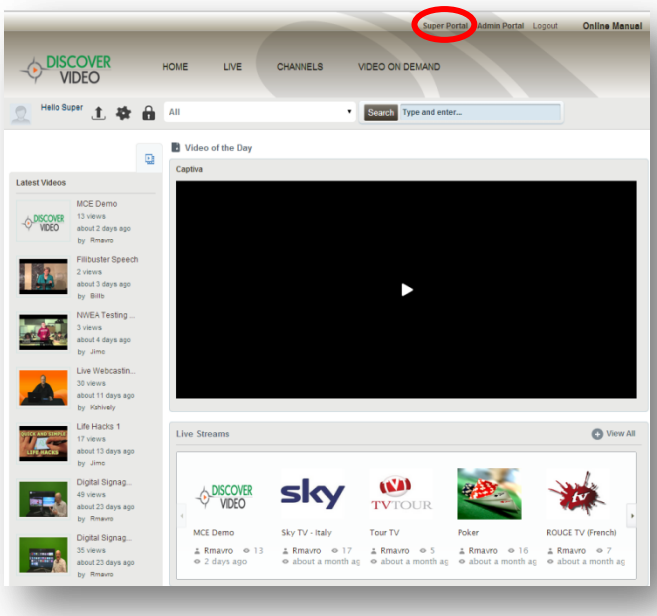
DEVOS has simple but powerful administration features. There are three levels of control:

- Super Admin -- System setup and control, assigns Admins
- Admins -- Each Admin has their own independent publishing, streaming, and control privileges.
- User (viewer) -- Has no publishing privileges

DEVOS can use existing Active Directory to control and monitor user access, or it can be used independently of Active Directory.

Super Admin

Open the User Interface. Select Login and enter the Super User username and password.

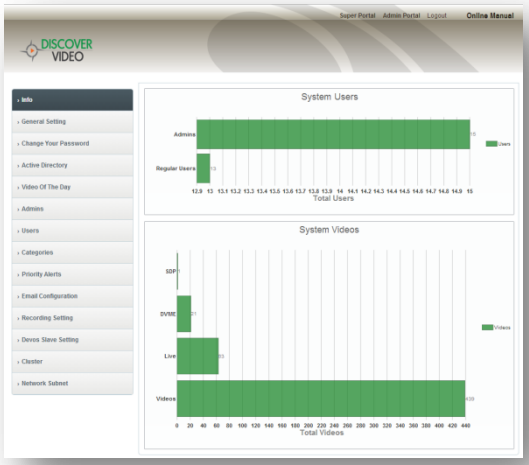


The Super User default username and password is:
Username: super
Password: supersuper

After login, select Super Portal. The Super Portal gives you access to System Information, Active Directory, Change Password, Add Admins, and Logo and Theme.

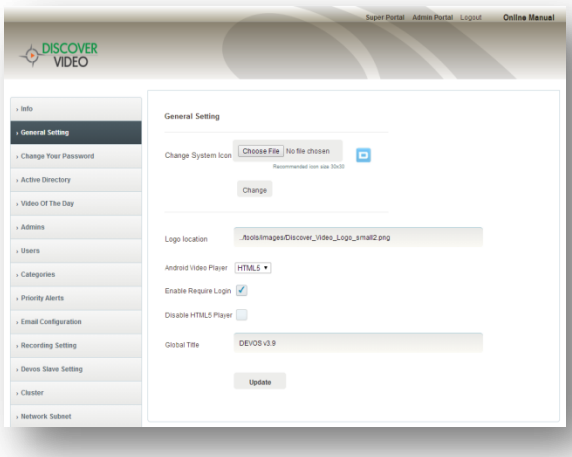
Super Portal Info

Displays information about your DEVOS system.



General Settings

Upload a new icon to change the icon shown in browsers. Customize the logo by entering your logo URL. Enter a full http URL that points to your logo and it will replace the "DEVOS" default logo. The logo file must exist on a web server.



For Android devices, you may select the default behavior for playing video using either Flash or HTML5. You may also disable HTML5 playing (see Appendix). You can disable guest access by Enable "Require Login". Enter a Global Title to be shown for page titles in browsers.

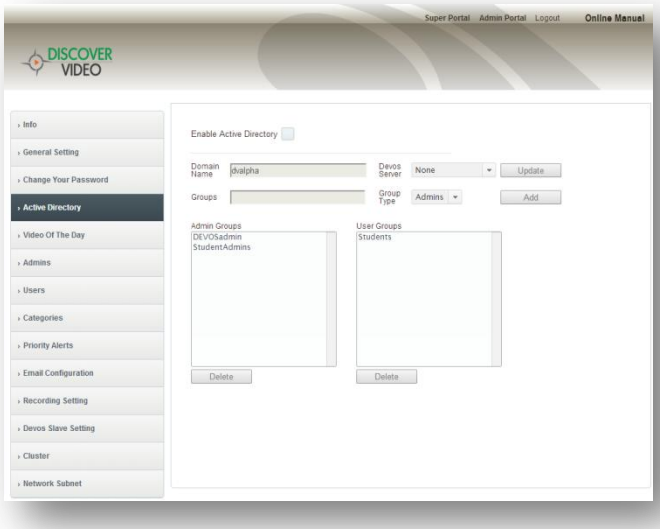
Change Password

Changes your Super Admin password.

Active Directory

DEVOS can use your network's Active Directory to assign certain privileges. If enabled, then a user with an Active Directory user account may log in to DEVOS using their existing credentials when their Active Directory Group has been entered as either an Admin or User.

For example, if you have an Active Directory group called "MYUSERS", you may type in "MYUSERS", select Users, and then select Add to add this group to the DEVOS Users.



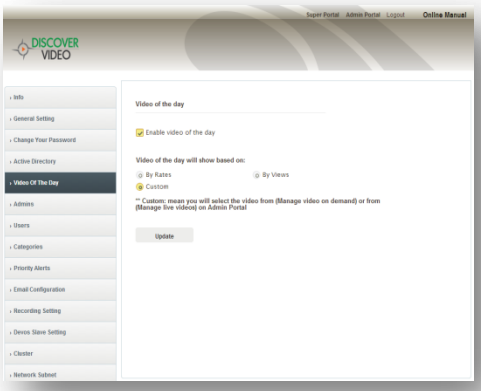
Similarly, you may have an Active Directory Group called "MYADMINS". Type in "MYADMINS" in the Groups field, select Admins from the dropdown list, and select Add.

At this point, any user in the "MYUSERS" group may now log in and have user privileges, and any users in the "MYADMINS" group may log in and have administration privileges.

The admin function is very powerful. When you add a group as admins, DEVOS creates a unique account for each and every user in that group. For example, if your admin group is called "teachers" and it has 50 members, then 50 DEVOS admin accounts will be created. Each admin has their own independent publishing / upload / management capabilities. DEVOS supports two levels of Active Directory. For example, you may have a group "students" and within that group there may be subgroups "2014", "2015", "2016", etc. DEVOS will add these subgroups when you add the "students" group. Groups in a lower level will not be added. If a record is found in both users and admins, then they will be added as an admin . To upgrade or downgrade credentials, you may have to delete the user from the displayed user or admin list.

Video Of The Day

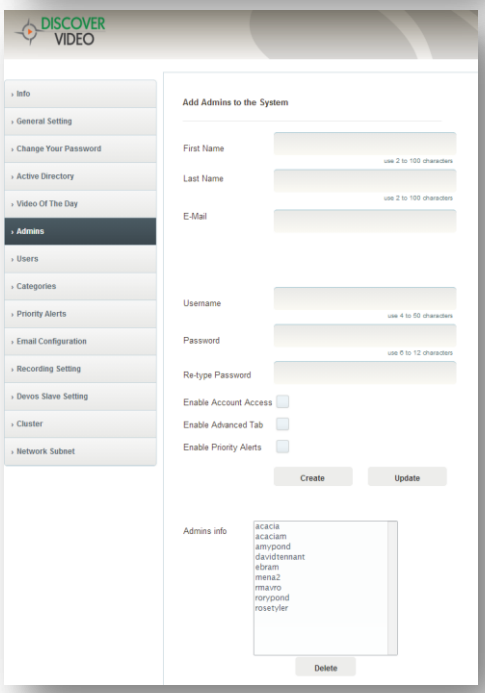
Select Enable to display the video of the day on the home page. DEVOS will automatically select the most popular video based on views or rating, or you may select Custom and then manually select the video of the day from the Admin / Manage Live or Video On Demand page.



Admins

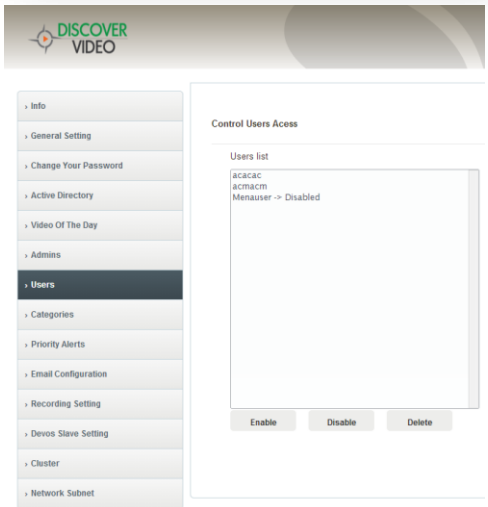
If you are not using Active Directory, then you may create new DEVOS Admins using the Add Admins function. Simply enter the required information and select Create, or select an existing entry and select Delete to remove an Admin. You can also remove an admin by not enabling account access. You may set any admin to have access to the Advanced Tab and Priority Alert.

When using Active Directory, all admins that have accessed the system will be listed and can be managed as well. A deleted admin will regain access as soon as they sign in (unless you uncheck Enable Account Access).

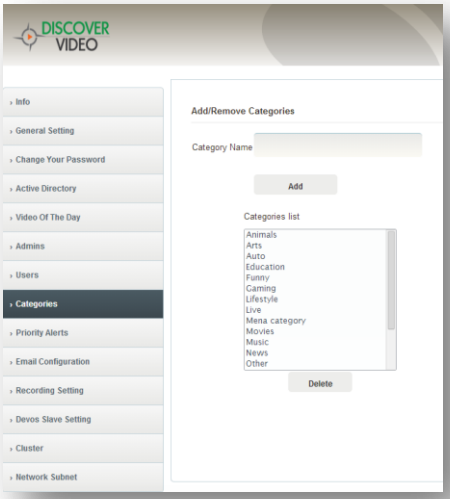


Users

The Super Admin may disable (ban) any user, or delete any user. For Active Directory, the Super Admin may only manage user privileges for those users that have already accessed the system at least once. A deleted Active Directory user will regain access as soon as they login. Note that you cannot add users. Users are added to the system through user self-registration or through Active Directory.

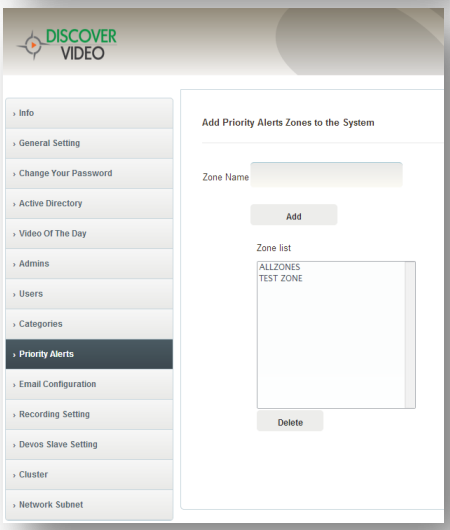


Categories



The Super Admin may create, delete, and modify category selections that are available to other admins.

Priority Alert Zones



The Super Admin creates Priority Alert zones which are used to alert one, some, or all desktops. Simply enter the desired zone name and select Add. To allow alerts to multiple zones, enter those zone names (e.g. to alert ONE and TWO enter "ONE TWO"). Zone "ALLZONES" is a special zone that alerts to all zones regardless of the setting, and it should not be deleted.

Email Configuration

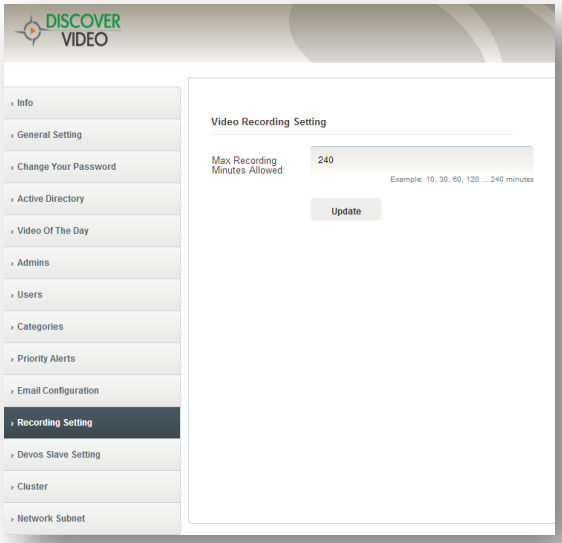
The Super Admin may enter the system email server (SMTP server) that DEVOS will use to send email to users who request password reminder.

Recording

The Super Admin sets the maximum recording time allowed when recording a live stream.

This is used to prevent excessive recording where an admin starts a recording session but forgets to stop it (potentially using all available disk space).

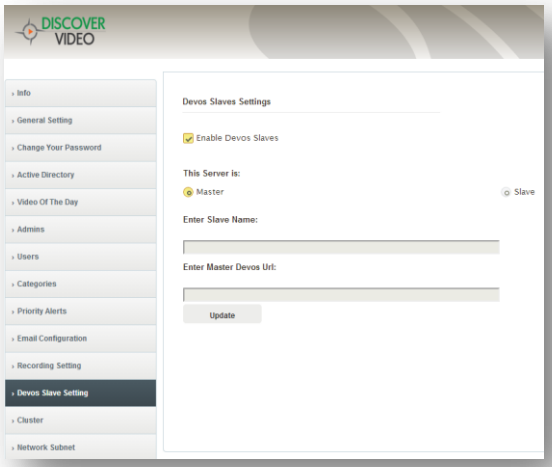
To set virtually unlimited recording, enter a very large value (for example, 99999 minutes would equal 1666 hours).



Devos Slave Setting

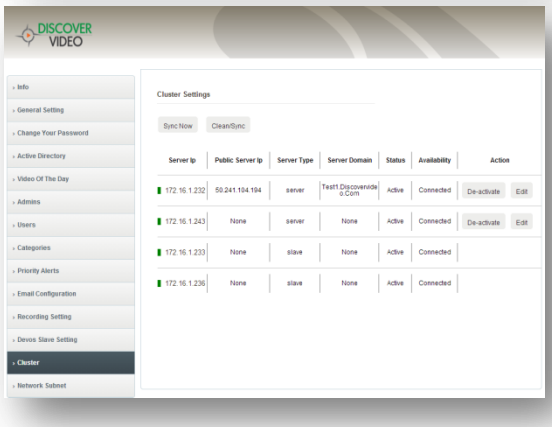
DEVOS may be a master or a slave. A slave connects to a master and delivers live video to local viewers.

If you do not have DEVOS slaves, then configure the server as master. If you have slaves, then configure DEVOS for master, and configure each slave as slave. Slave DEVOS must have a name and you must enter the IP or domain of the master DEVOS.



Cluster

A cluster is two or more DEVOS that operate as a single system. A cluster provides increased capacity and resiliency for both live and on-demand video. Clustering is an add-on feature that requires a special cluster license that sets the cluster server IP addresses, but the public IP and domain can be edited without needing a new license.

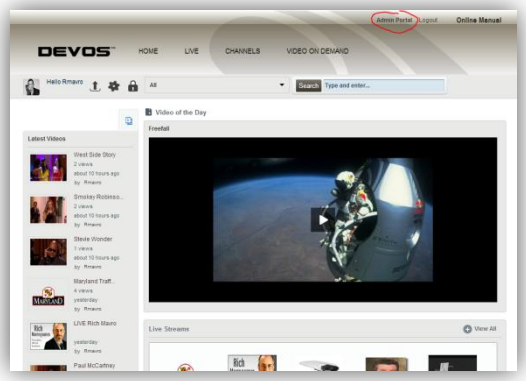


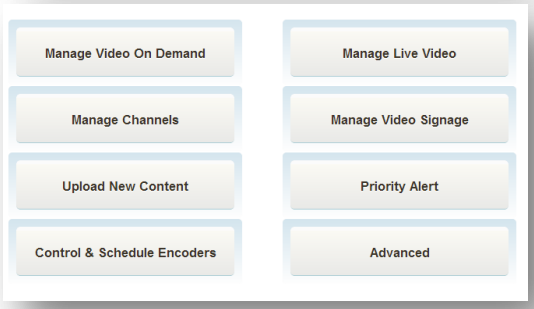
Network Subnet

You can define which network subnets will be served by the configured DEVOS. Simply add the desired IP address and use x for wildcard entry.

Admin Portal

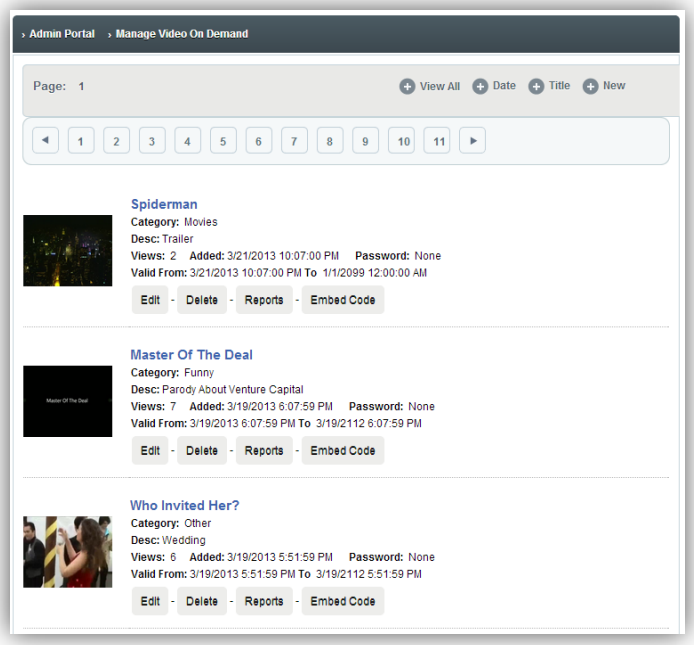
The Admin Portal provides access to all of the admin functions. The functions can be accessed from the bottom of the page or by selecting Admin Portal from the top of the page.





Manage Video On Demand

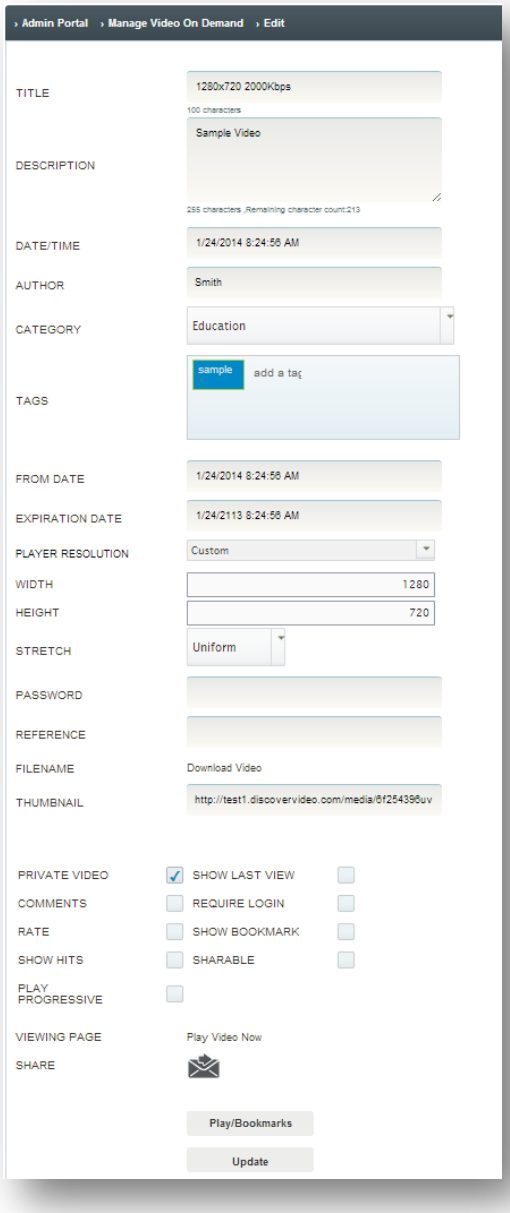
The Video On Demand interface allows you to view, edit, add, and delete VoD content. Content is added to the system in several ways, but once it is there, you mange it using this interface.


› Admin Portal › Manage Video On Demand
Page: 1
View All
Date
Title
New
1 2 3 4 5 6 7 8 9 10 11
Spiderman
Category: Movies
Desc: Trailer
Views: 2 Added: 3/21/2013 10:07:00 PM Password: None
Valid From: 3/21/2013 10:07:00 PM To 1/1/2099 12:00:00 AM
Edit - Delete - Reports - Embed Code
Master Of The Deal
Category: Funny
Desc: Parody About Venture Capital
Views: 7 Added: 3/19/2013 6:07:59 PM Password: None
Valid From: 3/19/2013 6:07:59 PM To 3/19/2112 6:07:59 PM
Edit - Delete - Reports - Embed Code
Who Invited Her?
Category: Other
Desc: Wedding
Views: 6 Added: 3/19/2013 5:51:59 PM Password: None
Valid From: 3/19/2013 5:51:59 PM To 3/19/2112 5:51:59 PM
Edit - Delete - Reports - Embed Code

Click on any video to play it. Select Edit, Delete, Report or Embed Code.

Sort your VoD list by date or title, or by new. Newly uploaded videos that are not yet published have a title "New".

You can upload a new video or add a new video. The difference is that if you upload a video it is stored on and delivered from the DEVOS system, while a new video may come from another source such as YouTube, a different VoD server, or another DEVOS system.

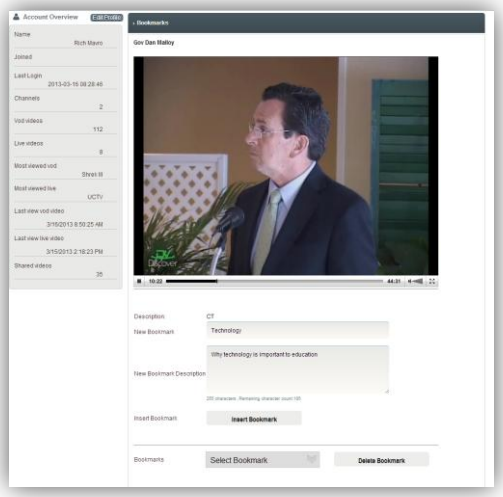


- Title -- the title of the video
- Description -- the description of the video
- Author -- the author of the video
- Category -- select an existing category
- Tags -- enter text tags separated by comma. Used to rapidly find related videos
- Date/Time -- The date and time of the video, used to sort the videos by date
- From Date and Expiration Date -- The dates and times when the video will appear in the user-facing video list. Used to automatically remove old videos from the list, and to add new videos at a future date.
- Height & Width -- select from dropdown or select custom and enter values
- Stretch -- normally select "Uniform". Other modes are used to "fix" video that may be in the wrong aspect ratio and anamorphic videos
- Password -- enter an optional password. If entered, then any user wishing to view the video must enter matching password
- Reference -- enter an optional reference URL (e.g. a web page or location). Reference URL displays on the player page.
- Filename -- Right-click to download this video from the DEVOS server

- Thumbnail -- This is the image used as thumbnail of the video. You may enter a URL, for example a private image you maintain on your web site.
- Private Video -- check to make the video private. When checked, the video will not appear in the user-facing video list. Private videos can be added to a channel.
- Comments -- Check to allow users to post comments about the video. The admin can delete any comments. Comments have a built-in profanity filter.
- Rate -- Check to allow users to rate the video
- Show Hits -- Check to show the number of views ("hits") for this video in the user-facing video list
- Show Last View -- Check to show the date/time of the last view of this video in the user-facing video list
- Require Login -- Check to require login to view this video
- Show Bookmark -- Check to show bookmarks for this video in the user-facing video list
- Shareable -- Check to allow other admins to be able to include your video in their channels and in Digital Signage. Sharing does not give other the ability to edit or delete your video
- Viewing Page -- This is the direct link to the video page
- Share -- Opens formatted email message that points to this video, using your default email agent
- Play Progressive -- Configures the video to play via progressive rather than streaming (see Appendix)

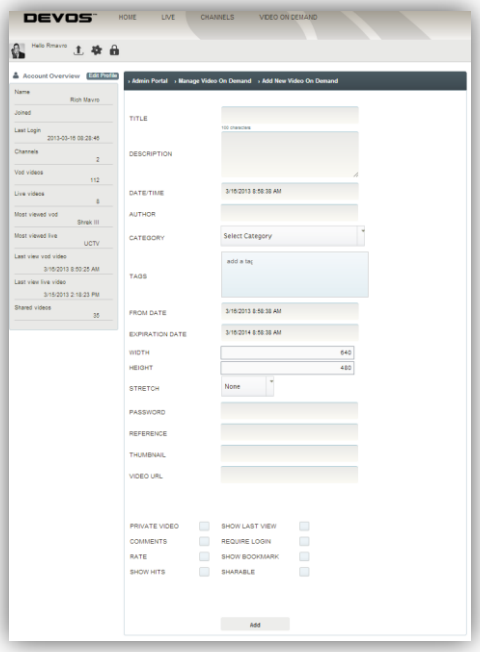
Play / Bookmark

Select Play / Bookmark to view the video and to insert bookmarks. To insert a bookmark, navigate the video to the desired position (optionally, press pause) and enter bookmark text and description, then select Insert Bookmark. Bookmarks provide rapid navigation to the selected time in the video. Note that bookmarks are only shown to the user if the Bookmark feature is checked.



Add New Videos

You may add videos from YouTube and other sources. This is a powerful capability that allows you to include videos from the millions available on YouTube while maintaining DEVOS control, display, and monitoring.



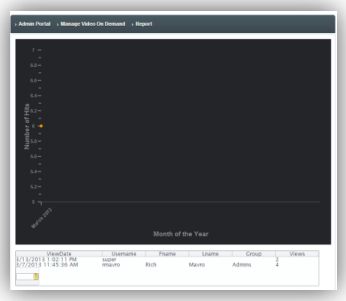
The process is identical to adding a local DEVOS video, except you must paste in the URL from YouTube into the "VIDEO URL" field.

The YouTube URL is simply the web page address of the desired YouTube video, for example http://www.youtube.com/watch?v=LOYNf76ZKsE. DEVOS will automatically insert the thumbnail image, but you may change it by inserting a different image URL if desired.

You may also enter a rtmp URL from another DEVOS.

Reports

Select "Report" next to each video to view information about how often it has been viewed, and by whom.



Embed Code

You may wish to include one or more videos in your own web page, for example your website home page, special events page, etc. You can simply link to the target DEVOS player page, or use embed code.

Select Embed Code to display the html for any one video. You may select from several sizes, or create a custom size for your embedded video player.

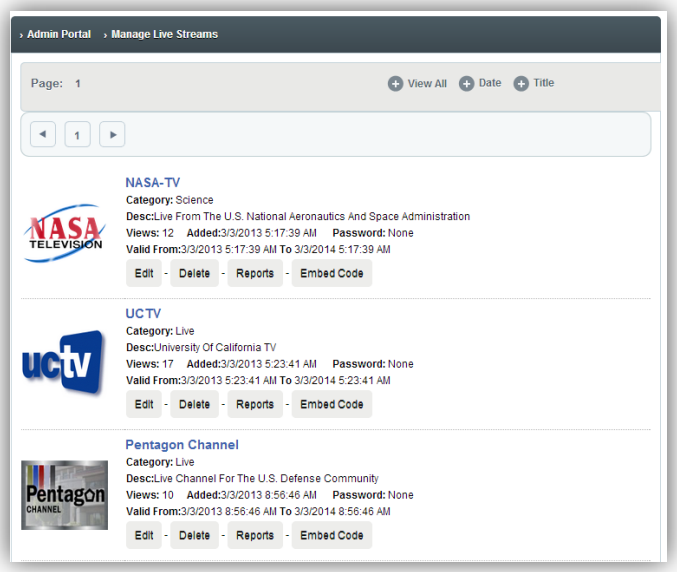
Copy the embed code (e.g. highlight it with your mouse, right-click to copy it to your clipboard) and insert it into your own web page.

You have embed code for each Video on Demand, each Live Video, and each DEVOS channel.

Embed code is not styled, does not include title, description, rating, comments, etc. or security features (password, login). When using embed code, you may wish to include your own text or graphics associated with the video.

Manage Live Video

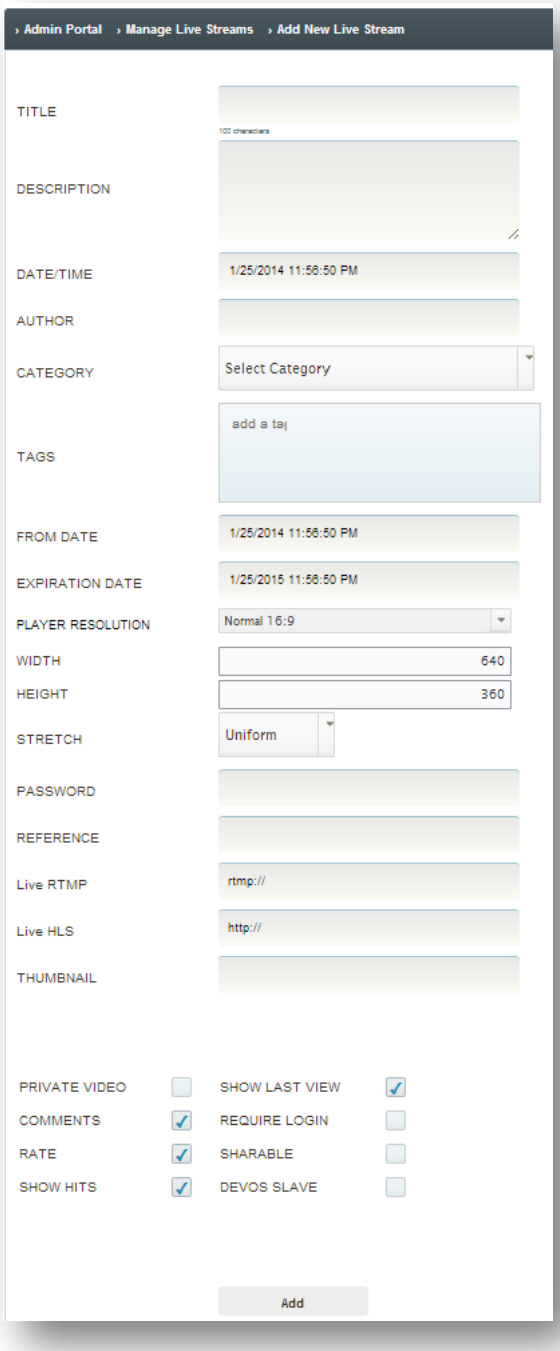
Select Mange Live video to view, edit, add, delete and manage your live video content settings.


› Admin Portal › Manage Live Streams
Page: 1
View All
Date
Title
1
NASA-TV
Category: Science
Desc:Live From The U.S. National Aeronautics And Space Administration
Views: 12 Added:3/3/2013 5:17:39 AM Password: None
Valid From:3/3/2013 5:17:39 AM To 3/3/2014 5:17:39 AM
Edit - Delete - Reports - Embed Code
UCTV
Category: Live
Desc:University Of California TV
Views: 17 Added:3/3/2013 5:23:41 AM Password: None
Valid From:3/3/2013 5:23:41 AM To 3/3/2014 5:23:41 AM
Edit - Delete - Reports - Embed Code
Pentagon Channel
Category: Live
Desc:Live Channel For The U.S. Defense Community
Views: 10 Added:3/3/2013 8:56:46 AM Password: None
Valid From:3/3/2013 8:56:46 AM To 3/3/2014 8:56:46 AM
Edit - Delete - Reports - Embed Code

Select Edit, Delete, Reports, or Embed Code for each video.

A Live Stream comes from some external source, such as CSPAN. A DVME Account enables the DVME (encoder) to stream directly to your DEVOS server.

Add New Live Stream / Edit Existing Stream



- Title -- the title of the live video
- Description -- the description of the live video
- Author -- the author of the live stream
- Date / Time -- the date and time of the live video. Used for sorting.
- Category -- select a category from the list
- Tags -- enter text separated by comma to rapidly identify the video
- From Date / Expiration Date -- the dates and times during which the live video selection will appear in the video list.
- Player Resolution -- sets the height and width of the video or allows for manual entry
- Stretch -- Normally set to Uniform. Other settings may improve the video display in certain cases (e.g. anamorphic video)
- Password -- enter optional password required for viewing the video. Leave blank for none
- Reference -- enter a URL to an external resource (e.g. your web site)
- Live RTMP -- the live RTMP address of the video.

- Live HLS -- the live HLS address of the video. Required for viewing via iPad/iPhone.
- Reference -- enter a web address that will be included as a reference for this video
- Private Video -- check to make the video private. When checked, the video will not appear in the user-facing video list. Private videos can be added to Channels and Digital Signage.
- Comments -- Check to allow users to post comments about the video. The admin can delete any comments. Comments have a built-in profanity filter.
- Rate -- Check to allow users to rate the video
- Show Hits -- Check to show the number of views ("hits") for this video in the user-facing video list
- Show Last View -- Check to show the date/time of the last view of this video in the user-facing video list
- Require Login -- Check to require login to view this video
- Sharable -- Check to allow other admins to include your video in their channels and Digital Signage. Shared videos cannot be edited or deleted by other admins
- DEVOS Slave -- enables this video to be replicated to DEVOS Slaves (if slaves are in use)
- Share -- Opens formatted email message, using your default email program, that points to your video

If you are using a 3rd party live encoder:

Set the encoder to:

Server: rtmp://[your DEVOS server]/live
Stream Name: [unique name]

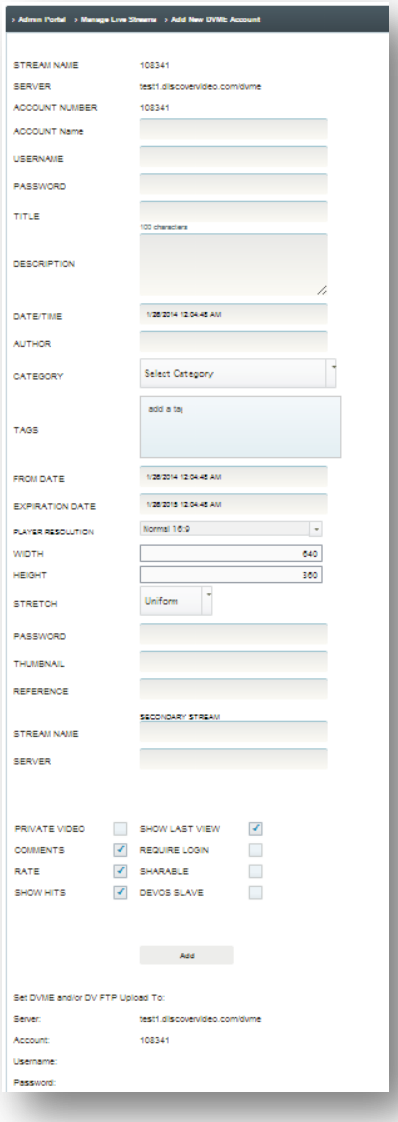
Set the above Live Stream values to:

Live RTMP: rtmp://[your DEVOS server]/live/[unique name]
Live HLS: http://[your DEVOS server]/autohls/[unique name]/[unique name].m3u8
Thumbnail: [http path to a jpg or gif image]

Be sure the encoder is set for compatible settings (in particular, older encoders may not support AAC audio). For best results, use DVME.

New DVME Account

A DVME Account is used to provision a Discover Video Multimedia Encoder, Streamsie, or other DV product. Once created, DVME users simply enter the DEVOS server, Account Number, Username, and Password that you create here, and that DVME is ready to do live streaming, recording, uploading, and it can be remotely controlled.



- Account Name -- this is a reference name for the account, for example "Room 1", "My Office", etc.
- Username -- a username that you create and must be entered in DVME
- Password -- a password that you create and must be entered in DVME
- Title -- the title of the live video
- Description -- the description of the live video
- Author -- the author of the live stream
- Date / Time -- the date and time of the live video. Used for sorting.
- Category -- select a category from the list
- Tags -- enter text separated by comma to rapidly identify the video
- From Date / Expiration Date -- the dates and times during which the live video selection will appear in the video list.
- Player Resolution -- select the size of the player or enter custom values
- Stretch -- Normally set to Uniform. Other settings may improve the video display in certain cases (e.g. anamorphic video)

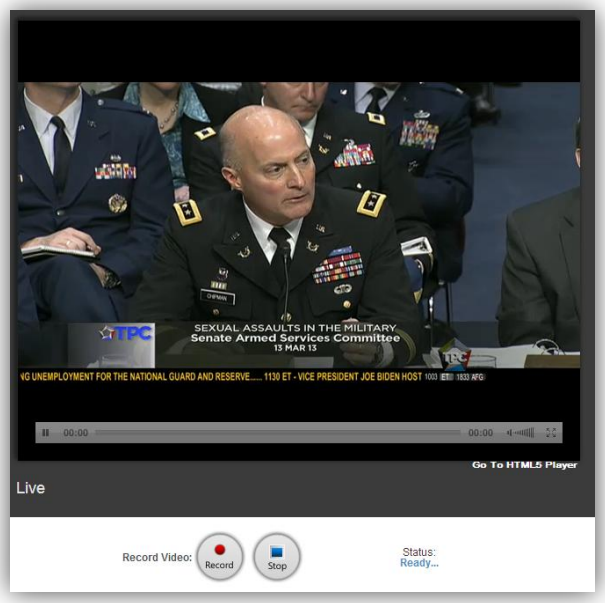
- Password -- the password a viewer must enter to view the video. Leave blank for none
- Reference -- enter a URL to an external resource (e.g. your web site)
- Secondary Stream -- enter optional stream name and rtmp server. When present, DVME will stream to this server in addition to streaming to DEVOS. Used for backup / redundancy purposes (uses twice the bandwidth as one stream)
- Private Video -- check to make the video private. When checked, the video will not appear in the user-facing video list. Private videos can be added to Channels and Digital Signage.
- Comments -- Check to allow users to post comments about the video. The admin can delete any comments. Comments have a built-in profanity filter.
- Rate -- Check to allow users to rate the video
- Show Hits -- Check to show the number of views ("hits") for this video in the user-facing video list
- Show Last View -- Check to show the date/time of the last view of this video in the user-facing video list
- Require Login -- Check to require login to view this video
- Sharable -- Check to allow other admins to include your video in their channels and Digital Signage. Shared videos cannot be edited or deleted by other admins
- DEVOS Slave -- enables this video to be replicated to DEVOS Slaves (if slaves are in use)
- Share -- Opens formatted email message, using your default email program, that points to your video

The proper DVME settings are shown at the bottom of the page. Enter these as shown in DVME.

Recording

Live video that is delivered by the DEVOS streaming server* can be recorded by the admin that owns the content or by the Super Admin. Simply select the video from the Manage Live Video admin function and a record and stop button appears under the player.

Select Record to start, Stop to end. The maximum recording time is set by the Super Admin (e.g. 60 minutes). It is not necessary to leave the page open or the player running during recording: the recording takes place on the DEVOS server so you can log out and come back later to stop the recording if desired.



After recording, the video will appear as a new video in the Manage Video On Demand page, and you can then set your title, description, etc. Please allow 5 minutes for new recordings to appear.

***You can record a live stream that is pushed or pulled to DEVOS. You cannot record a stream that is delivered directly from an external source unless you pull it (advanced function).**

Note: The quality of the recording depends on the quality of the stream. DVME records the video at the source (not at the server), at a different bit rate than is used for live streaming and can produce a superior result.

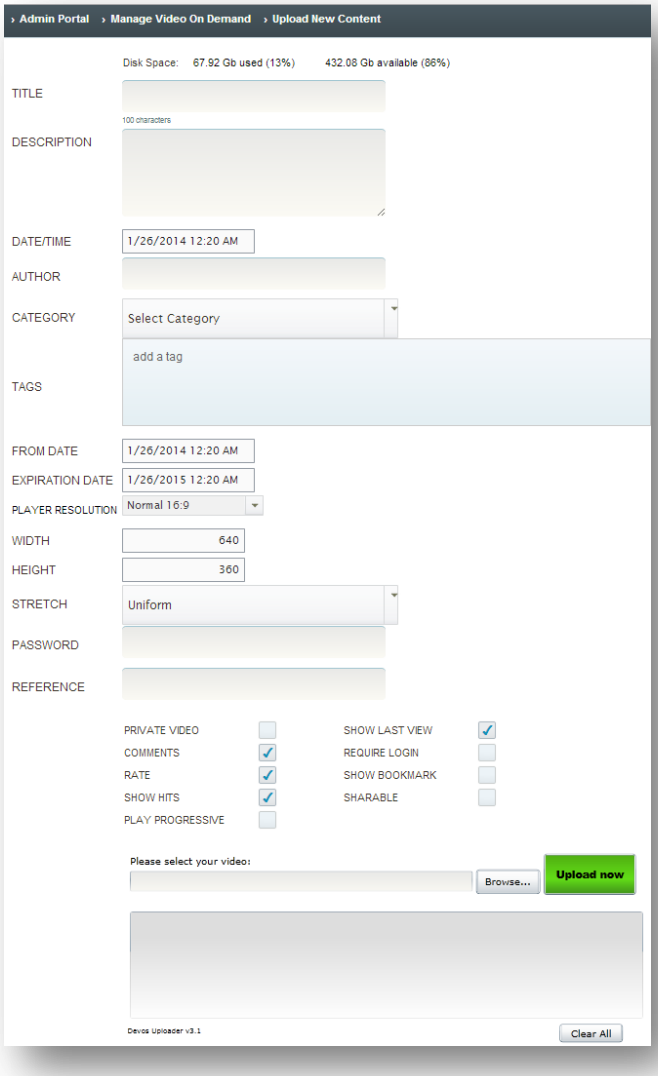
Uploading New Content

There are many ways to upload new content to the DEVOS system:

- Web Upload -- you can upload video files via the web upload page. Access this function from the Admin page or from the Manage Video On Demand page.
- DVME Upload -- DVME can manually or automatically upload content using the configured streaming account. DVME will automatically publish content immediately after recording if so configured.
- Streamsie™ -- Streamsie records your video on an iPad or iPhone and publishes it to DEVOS using your admin account. Streamsie allows you to include title, description, and publishing options.
- DV Upload for iPhone -- The DV Upload program for iPhone allows you to browse to a video you created on your iPhone, select it, automatically convert it, and upload it using your DEVOS Admin FTP account.
- FTP Upload -- Virtually any FTP program can be used to upload content to an admin's DEVOS account (e.g Filezilla, cuteFTP, etc.). The FTP server is the DEVOS IP address, and the username and password are the admin's username and password.
- After you upload via FTP, the system will ingest your video file within 5 minutes. After ingestion, your video file will disappear from your FTP account.
- Dropbox -- simply drop a video file into your Dropbox folder and it will be added to DEVOS automatically.
- Google Drive -- simply drop a video file into your Google Drive folder and it will be added to DEVOS automatically.
- Upload Program -- for large files, and for non-administrators, Discover Video provides a downloadable program for Windows computers that uses the configured streaming account to upload content of virtually any size, and to convert many video formats into a form suitable for upload.

Web Upload

The web page upload allows you to upload new .mp4 or .mov (H264 encoded) files from your computer directly to your admin account. Enter all publishing values and then browse your computer for the desired video file and select "Upload Now".

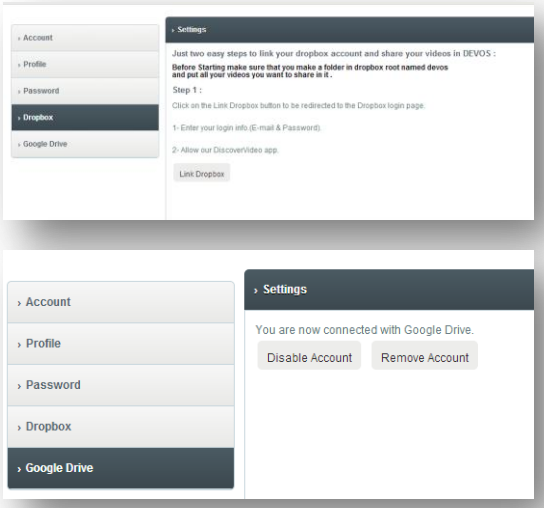


During upload, progress will be shown.

CAUTION: Do not navigate away from the page or close the browser until the "Upload Complete" banner is displayed at the top of the page!

Dropbox and Google Drive

DEVOS supports the popular Dropbox and Google Drive system for sharing files.


Account
Profile
Password
Dropbox
Google Drive
Settings
Just two easy steps to link your dropbox account and share your videos in DEVOS :
Before Starting make sure that you make a folder in dropbox root named devos and put all your videos you want to share in it .
Step 1 :
Click on the Link Dropbox button to be redirected to the Dropbox login page.
1- Enter your login info (E-mail & Password).
2- Allow our DiscoverVideo app.
Link Dropbox

To configure, log in as administrator. Access your profile (by clicking your admin name next to your profile picture). Select Dropbox or Google Drive.

Link your account by following instructions to enter your account username and password (a popup web page will appear). Then enable linking.

Create a folder called "devos" in your Dropbox and/or Google Drive folder. Simply drag and drop a .mp4 video file to this folder and it will appear on DEVOS in minutes. If you include the metadata file, the video will be added to DEVOS with title, description, etc. and can be automatically published.

Depending on the size of the file(s), it could take a few minutes or hours for your content to sync.

Once the files are on DEVOS, they can be removed from your Dropbox or Google Drive account and they will not be removed from DEVOS. This means that you potentially do not need very large storage space on these systems.

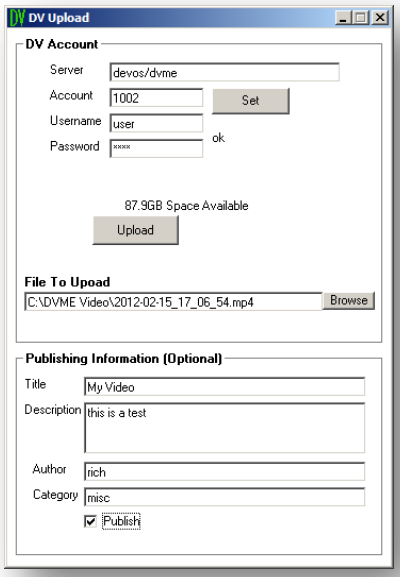
Each admin can have their own linked account.

Google Drive will only work if your DEVOS server is on an outside IP address and has a domain name (e.g. mysystem.com). The Google Drive system must be configured prior to use. Please contact Discover Video and provide your DEVOS public domain URL. Dropbox does not have these restrictions.

Upload Program

The DV upload program not only uploads your video, but it can optionally publish it too. It is available from the Advanced / Download link. For converting video, see the Appendix.

- Server -- required. Enter the server name or IP plus "/dvme"
- Account -- required. The DEVOS streaming account.
- Username & Password -- required. The DEVOS streaming account username and password
- File To Upload -- browse to a .mp4 file
- Publishing Information -- Optional
- Title, Description, Author, Category -- optional. Enter desired values

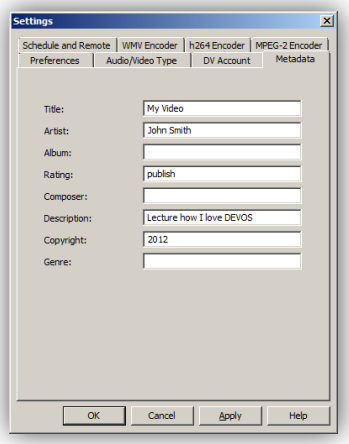


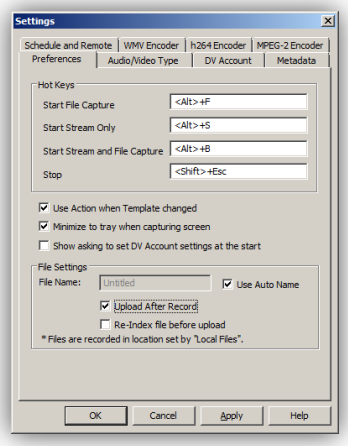
- Publish (check) -- optional. If checked, then the video will be published after upload (will appear in the viewer interface).

Note: Allow 5 minutes after upload has completed for the new video to appear

DVME

The Discover Video Multimedia Encoder (DVME) can also publish directly to DEVOS. Simply set the DVME metadata to desired values. *If you set the "Rating" to "Publish" or "Public" then your video will be automatically published.* If the "Rating" is not set to "Publish" then the video will have its metadata, but it will be set to Private Video.





Also, note that you can automatically upload and publish recordings by checking "Upload After Record" in DVME Preferences tab. When using the DEVOS remote control page, upload can be set remotely.

Priority Alert

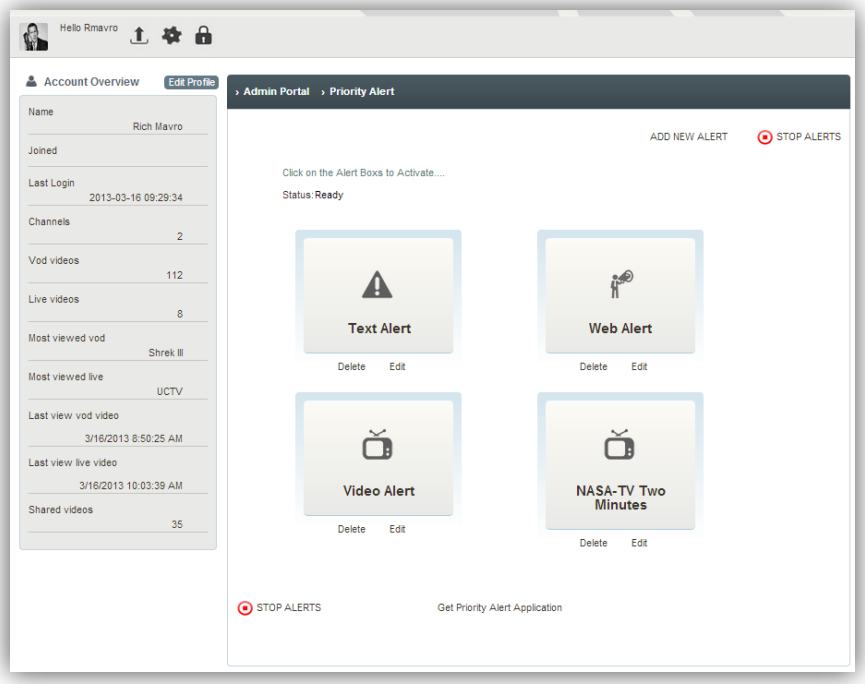
The Priority Alert system can cause one, some, or all computers to display your live or on-demand video, your message, or a web page, automatically and without a user taking any action. Priority Alert is a privilege assigned to admins by the Super Admin.

Your Priority Alert is also displayed on Digital Signage displays.

You must install the Priority Alert program on every computer that you wish to receive alerts. This is a very small, unobtrusive, virus-free program that sits in the system tray of the computer, waiting to spring to action upon administrator control.

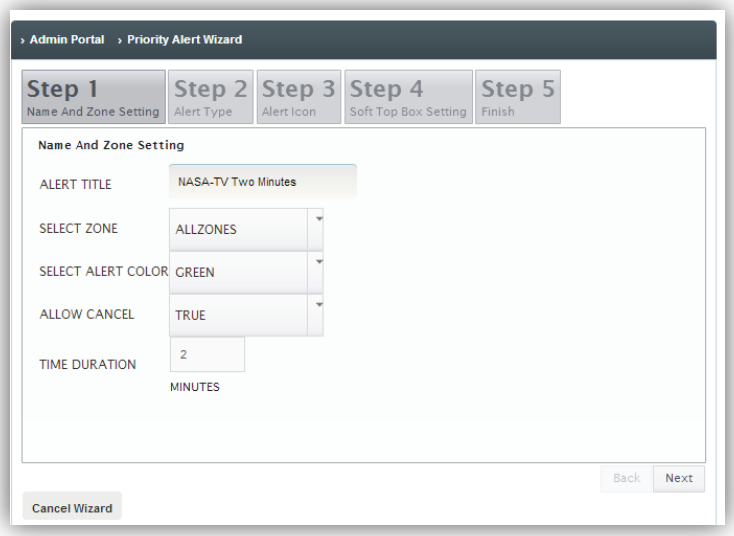
Initiating Alerts

Priority Alerts are initiated by simply pressing a preconfigured button.

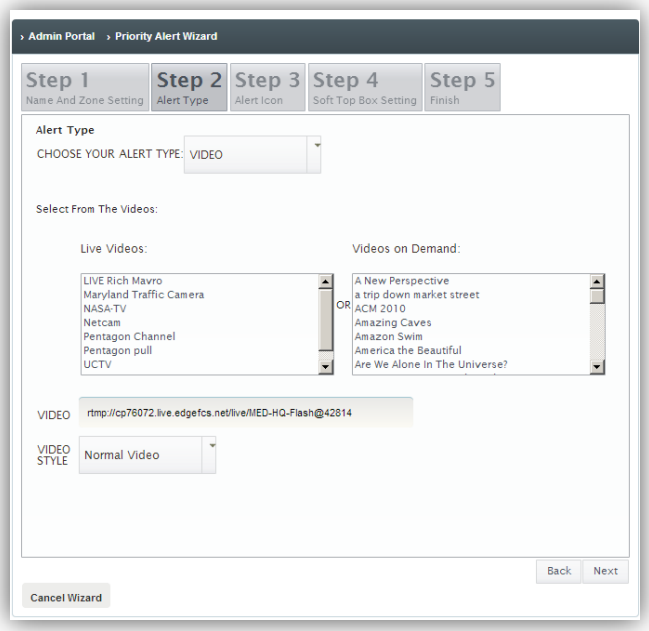


Creating Alerts

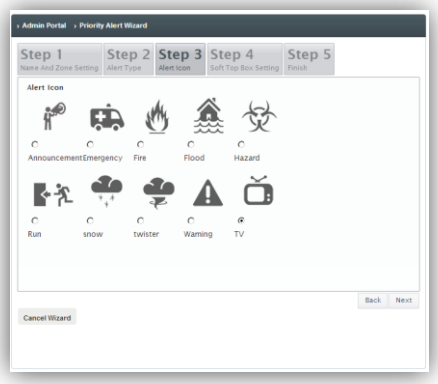
Access the Priority Alert control panel from the administration interface. Select Add New Alert to define a new alert button then follow the wizard steps:



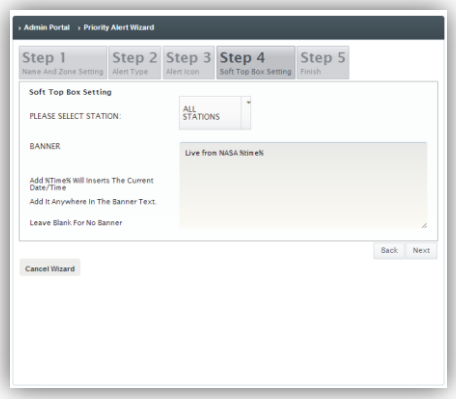
- Alert Title -- The title that will apper in a new Alert Button. Should be descriptive (e.g. "Morning Announcment")
- Select Zone -- Select the zone for the alert. Zones are defined by the Super administrator
- Select Alert Color -- Select the color for the alert.
- Allow Cancel -- True means desktop alerts can be canceled by the viewer. False means the alert cannot be ignored.
- Time Duration -- The number of minutes that the alert will be active



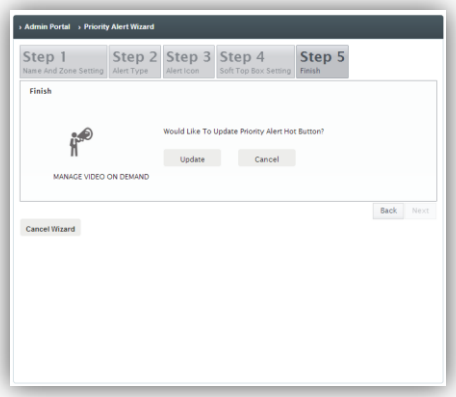
- Alert Type
- Video -- sets live or Video on Demand content as the alert
- Select the live or VoD content
- Video Style Normal -- desktop is a popup
- Video Style Fullscreen -- desktop is full screen
- Text -- sets a text message as the alert
- Web -- sets a web page as the alert



Select the Icon desired for the alert button



If you are using Digital Signage, then your alert will appear on the selected signs. Enter the banner text to be displayed on the Digital Signage station(s).



Save or update your alert button.

Desktop Install

Download the Priority Alert program from the link on the Priority Alert control page. When prompted, enter the address of your DEVOS server and your zone. Optionally after install, find the file "config.xml" in the install folder and edit it using notepad or similar. The config.xml file is shown below

```
<discovervideo>
   <inputurl>http://123.123.123.123/alert</inputurl>              <!--http://yourDEVOSserver/alert-->
   <checkminutes>0.2</checkminutes>                               <!--minutes between updates-->
   <visible>true</visible>                                        <!--true or false-->
   <usercontrol>true</usercontrol>                                <!--true or false-->
   <zone>default</zone>                                           <!--enter zone name-->
   <web>external</web>                                            <!--leave blank or enter external to use default browser-->
</discovervideo>
```

- <inputurl> is the address of your DEVOS server

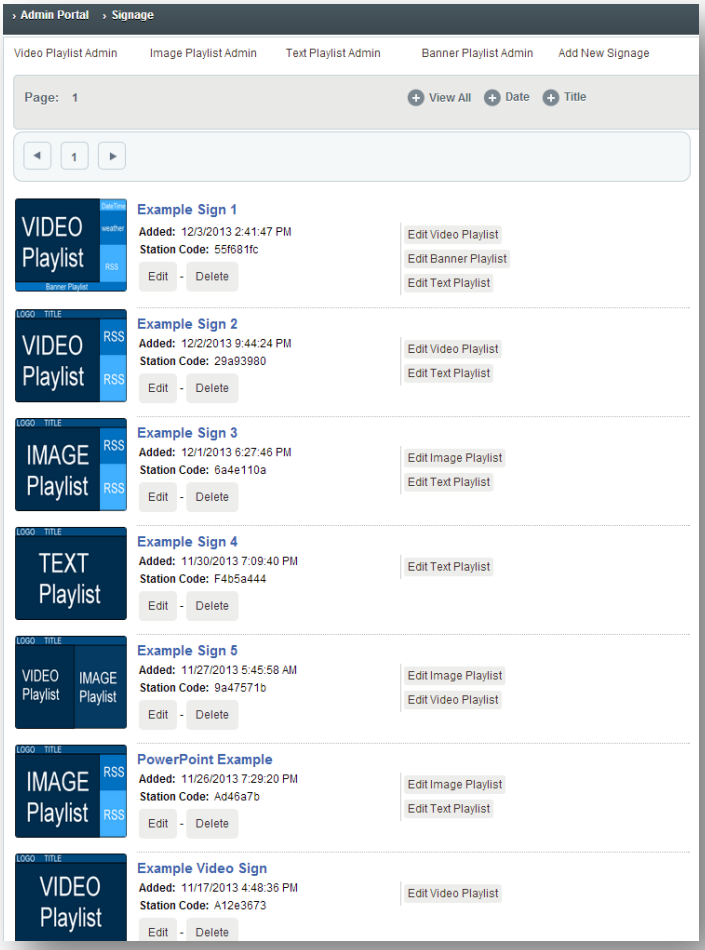
- <checkminutes> tells the system how often to check for status changes (lower number causes more server activity, higher number less -- it is recommended that the value be set higher in large networks to prevent system overload).
- <visible> true or false sets whether the icon is visible on the user's desktop
- <usercontrol> sets whether the user can change the zone setting
- <zone> sets the zone value
- <web> sets the alert to use internal or external default browser

Install Priority Alert on all desktops, then replace the default config.xml with the one you edited (alternately, you may edit the config.xml on every computer). If all computers are in the same zone, there is no need to edit the config.xml file. If your computers are in different zones, simply edit the config.xml file so that the <zone> is correct for each computer. Note that zone names are arbitrary, but must match what the Super Admin has entered in the DEVOS.

Run Priority Alert DEVOS program from the Windows Start menu. The program will start automatically upon computer reboot. **Also please note that the config.xml file is read upon Priority Alert startup: if you change the file, please close and restart the desktop Priority Alert program.**

Manage Signage

Video Signage, also called Digital Signage, displays your live or on-demand video, text, RSS feeds, images (including PowerPoint), or web pages -- on video monitors in lobbies, common areas, or anywhere you want content to be displayed continuously via the Discover Video Soft Top Box®, via the DEVOS built-in Digital Signage display web page, or via the Discover Video Samsung Smart TV App. DEVOS provides an unlimited number of display configurations.

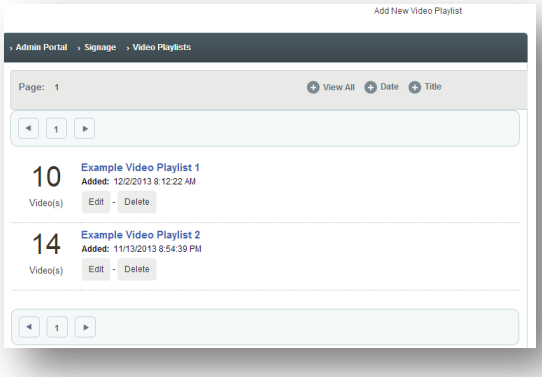


How To Create A Sign

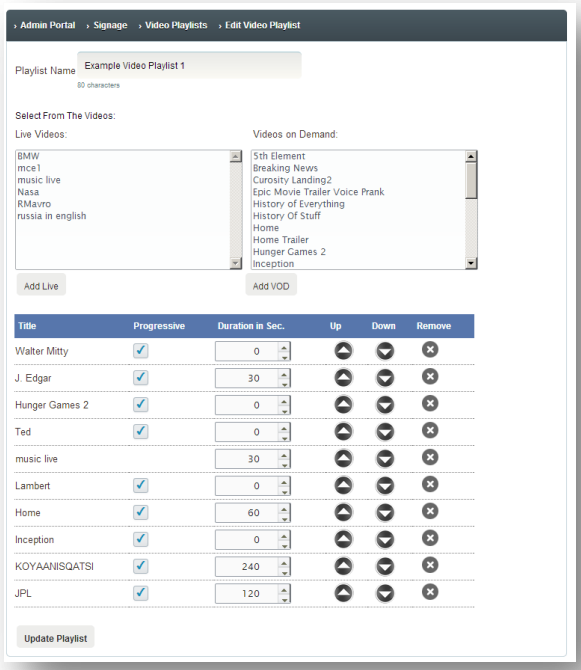
It is important to understand that a sign is a template plus one or more playlists. Depending on the sign desired, it could have a video playlist, an image playlist, a banner playlist, and/or a text playlist. A playlist may have one or more items in it. So the first thing you must do is create playlists that you will use your signage.

Video Playlists

Select "Video Playlist Admin" to add a new video playlist or to edit an existing video playlist.



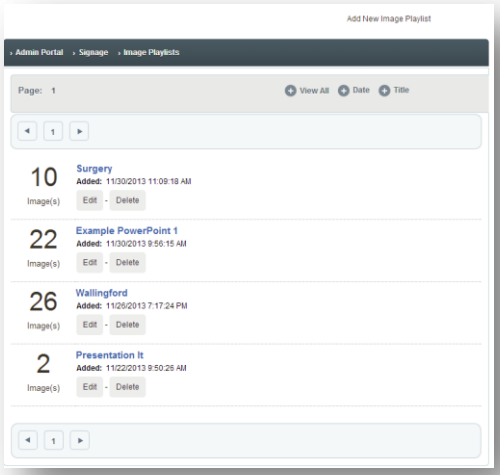
Simply select the live or on demand video desired from the list and select "Add Live" or "Add VoD". Notice that you can add videos that other admins have marked as shared.



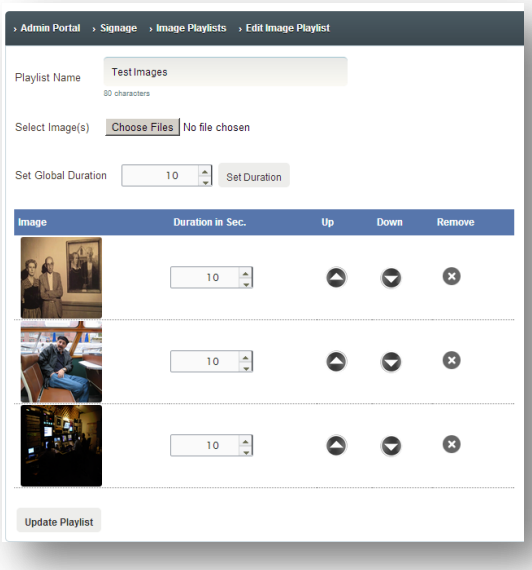
You may change the duration of the content playback (where 0 means play a VoD for its natural duration), play VoD via streaming for Progressive (which is the preferred method), change the playlist order by pressing the up/down buttons, or remove a video from the playlist. You may have a playlist with only one item, for example a live video that will play forever. Select "Update Playlist" when done. Note that for live video, a duration of 0 means "play forever" and is only available when there is only one live video in the playlist.

Image Playlist

Select "Image Playlist Admin" to add a new image playlist or to edit existing.



Give your Image Playlist a name and select images from your computer to upload. When creating a new Image Playlist, or adding image files to an existing Image Playlist, simply select "Choose Files" to browse your computer and select .jpg or .png image files (only these types are supported). You may Ctrl-Click on multiple files to upload multiple files at the same time.



NOTE: It may take a few moments for images to load and save. Please be patient.

You may change the order of the playlist by selecting the up/down arrows. You may change the duration for each image to be displayed. You can set the duration for all images using the Global Duration setting.

Select "Update Image Playlist" when done. It may take several moments for the save to complete.

PowerPoint

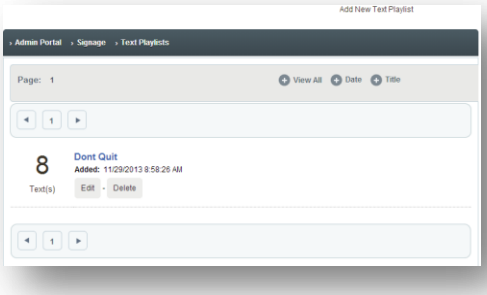
You may add PowerPoint slides to your sign very easily. Download and install the "PPT Converter" from the DEVOS Admin help page, navigate to a .ppt or .pptx file on a computer that has PowerPoint installed. Select "Convert" and the program will create a folder in C:\DVPresentations with your PowerPoint images. For example, if your PowerPoint file is called "MyShow.ppt" then your images will be in C:\DVPresentations\MyShow. Simply upload all of these images to an image playlist.

You can also save your PPT as images (.jpg) directly from PowerPoint using the "Save As" function.

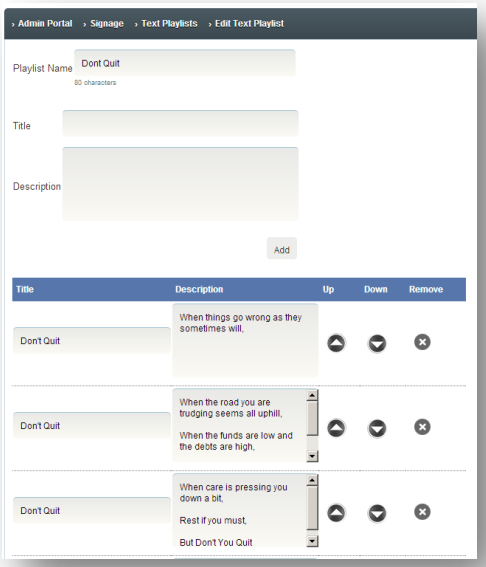
Note that you should set the size of output images to be as small as possible yet still provide good image quality, for example 600 x 800, 1024 x 768, etc.

Text Playlist

Select "Text Playlist Admin" to add a new text playlist or to edit existing.



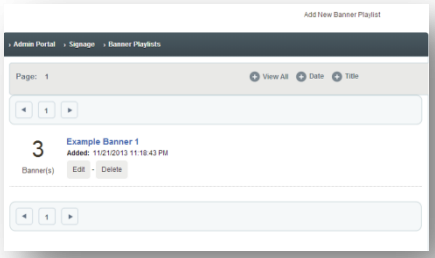
Enter a name for your text playlist. Enter a title (heading) and description (text that will be shown) and select "Add".



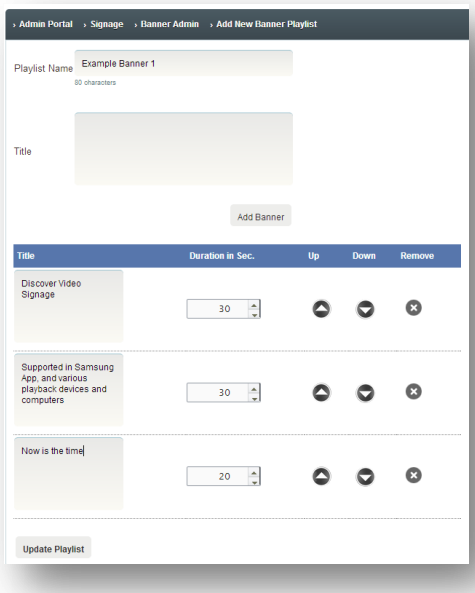
You may edit any existing text, change the display order by selecting the up/down arrows, or remove the text. Select "Update Playlist" when done.

Banner Playlist

Certain signage templates support banners. Select "Banner Playlist Admin" to add a new Banner playlist or to edit existing



Enter a name for your Banner playlist. Add Title text and select "Add Banner".

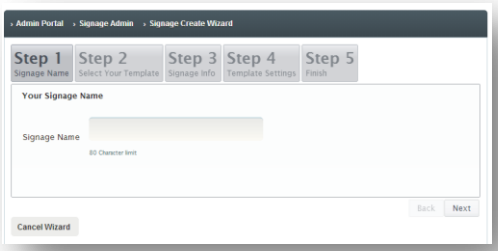


You can edit existing banner text, change the display duration, and move the play order by selecting the up/down arrows, or remove the banner. Select "Update Playlist" when done.

Create Sign

To create a sign, select "Add New Signage" from the signage menu. This will launch a wizard to guide you.

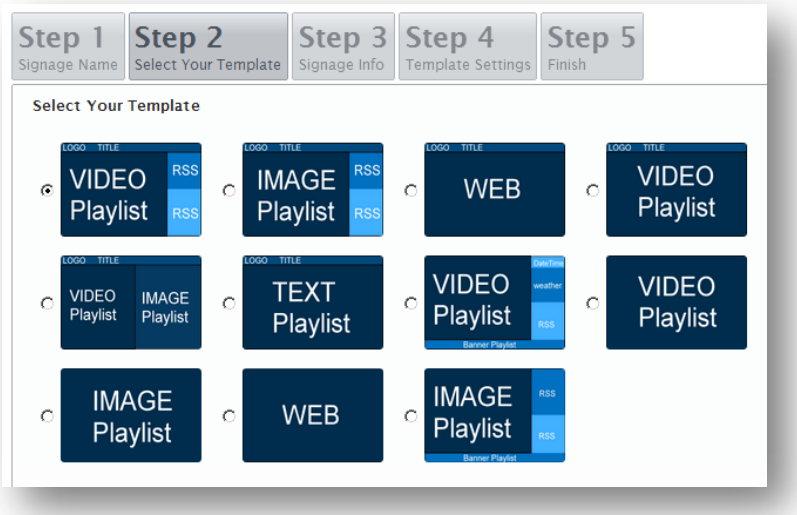
Step 1 -- Name



Give your sign a unique name. This name will appear on the Manage Signage page. Select *Next*.

Step 2 -- Select Template

Select the desired layout for your sign. Choices include:

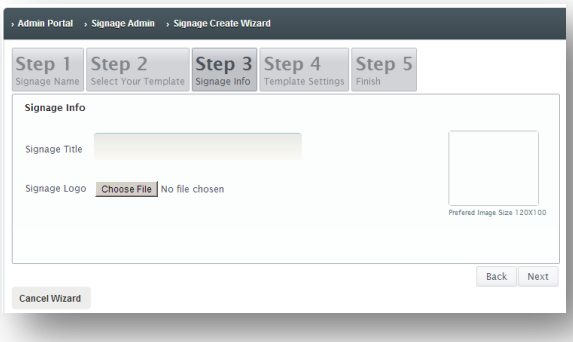


- Video Playlist+ Two RSS Feeds* with Logo and Title
- Image Playlist + Two RSS Feeds* with Logo and Title
- Web Page with Logo and Title
- Video Playlist with Logo and Title
- Video Playlist + Image Playlist with Logo and Title
- Text Playlist with Logo and Title
- Video Playlist + Weather + RSS Feed* + Banner Playlist with Logo and Title and Time
- Full Screen Video Playlist Only
- Full Screen Image Playlist Only
- Full Screen Web Only
- Image Playlist + Two RSS Feeds* + Banner Playlist with Logo and Title

*RSS Feeds may be public RSS from popular news aggregators, or your local text playlist

Select *Next*

Step 3 -- Signage Info

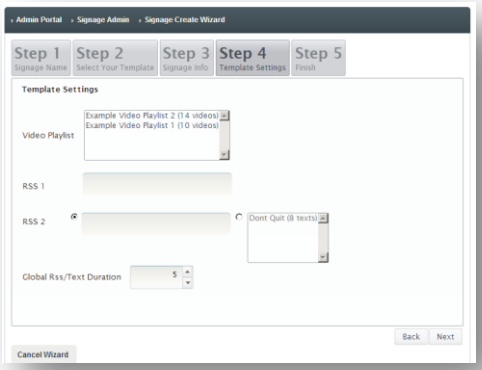


Enter the title for display in the sign, and select an image (e.g. logo or picture). Note that this Step 3 will be skipped if you select a template that does not have a title or logo. Select *Next*.

Step 4 -- Template Settings

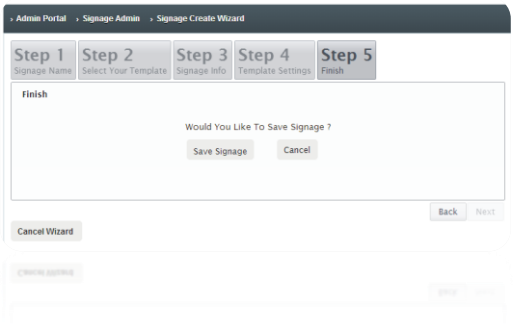
The Template Setting page will depend on the template selected. The example below shows a layout for video plus two RSS feeds. In this case, you select the desired video playlist, enter an address for RSS #1 (for example, a news feed) and either another RSS address for RSS #2 or select an existing text playlist.

Note that you must enter at least one RSS address (you can do a web search for "RSS" to quickly find news feeds and similar). If you leave the first RSS feed blank, the 2nd RSS feed will occupy the display space.



You may also set the duration of the RSS display(s). Select *Next*.

Step 5 -- Save



When done, select "*Save Signage*"

Note that once your sign is created, you may edit it at any time. You may also directly edit each playlist used in any sign.

RSS

RSS (Really Simple Syndication) is a popular way for news aggrators (e.g. PBS, CNN, New York Times, etc.) to distribute news and other information. A properly formated RSS feed ends with ".rss", although some ".xml" feeds will work with DEVOS. Examples (may not be current):

- CNN Top Stories: http://rss.cnn.com/rss/cnn_topstories.rss
- NPR Top Stories: http://www.npr.org/rss/rss.php?id=1001
- NASA: http://www.nasa.gov/rss (list of feeds)

The RSS reader only uses the <title> and <description> values in each RSS <item>. Images, links and formating is ignored. For minimal example, see http://discovervideo.com/rss/dv.xml

Displaying Signage

Click on any created sign to open it. Copy the URL for that sign and open it on any computer or Soft Top Box. For Samsung Smart-TV panels, you should use the Discover Video Signage App.

Connect a computer to your display using your preferred method (VGA/DVI/HDMI) and open the listed Web Version URL in a web browser (IE preferred).

To automatically start the display when the computer starts, follow these steps:

- Use notepad or similar to create a file called "videosign.bat" and insert a single line in the file:

  start iexplore -k [the video sign Web URL]

- example: iexplore -k [the video sign Web URL]

- Save the file. Double-click on it to test it. It should open IE full screen and your video sign should be displayed. Press Alt+F4 to exit

- Create a shortcut in your Windows startup folder, or create a startup task that runs this file. To create a startup task, go to your control panel, select System and Security, select Administrative Tools, select Task Scheduler, select Create Basic Task, give it a name such as "Video Sign Startup", select Next, and set the task to run the program "videosign.bat" when the computer starts. Set required security permission if required.

Soft Top Box®

The Discover Video Soft Top Box is a compact Digital Signage player that delivers HDMI and DVI/VGA video to a monitor. It is configured using the DEVOS signage URL.

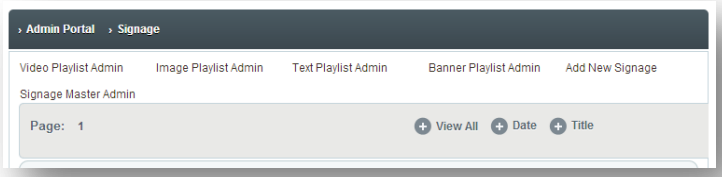
Discover Video Samsung Smart-TV App

Install the Discover Video App by following the install steps (listed on the DEVOS "Online Manual" page). The Digital Signage App allows you to display your signage directly on a Samsung Smart TV or BluRay player without needing a Soft Top Box or computer.

Super Admin Signage

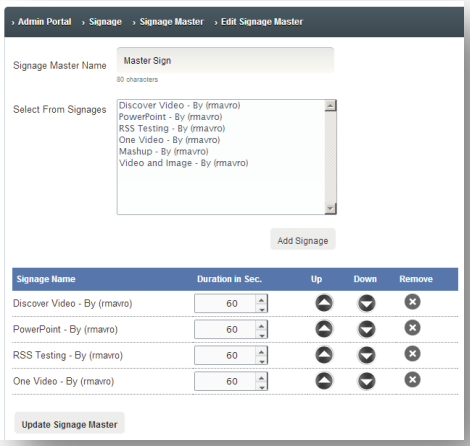
The DEVOS Super Admin may create a Master Sign. This is a "Sign of signs" where you can select existing signs and cause a display to cycle between those signs for a specified duration.

Start by logging in as Super Admin, select Admin, and Signage. Next select "Signage Master Admin" as shown.



Select "Add New Signage Master" or edit existing. The interface lists existing signs and you may select them and add them to your master sign list, set the display time, and change the display order.

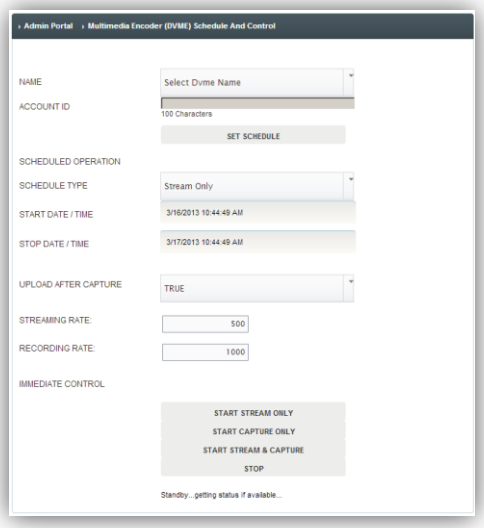
When done, select Update Signage Master. To display the master sign, simply click on it from the master list. Use the URL for that sign for display. Note that the Discover Video Samsung App does not support Master signs.


› Admin Portal › Signage › Signage Master › Edit Signage Master
Signage Master Name
Master Sign
80 characters
Select From Signages
Discover Video - By (rmavro)
PowerPoint - By (rmavro)
RSS Testing - By (rmavro)
One Video - By (rmavro)
Mashup - By (rmavro)
Video and Image - By (rmavro)
Add Signage
Signage Name
Duration in Sec.
Up
Down
Remove
Discover Video - By (rmavro) 60
PowerPoint - By (rmavro) 60
RSS Testing - By (rmavro) 60
One Video - By (rmavro) 60
Update Signage Master

DVME Schedule and Control

DEVOS can manage your Discover Video Multimedia Encoders (DVME). This is a powerful capability because it allows you to start/stop live streaming and capturing remotely, and to schedule your DVME actions.

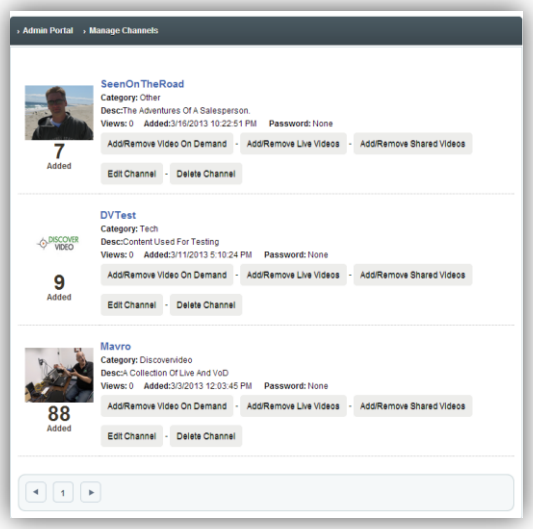
- Name -- select the DVME you wish to control or schedule from the dropdown list. Only DVME's that have been defined in the "Streaming Account" section are available.
- Schedule -- Enter the start date and time, the stop date and time, and the desired function (stream, stream and capture, capture). Then select Set Schedule.



- Upload After Capture -- If true, then DVME will automatically upload a recording. If metadata has Rating set to "publish", then the video will be set to non-private.
- Streaming / Recording Rate -- Enter the bit rate in Kbps that you want the encoder to use
- Immediate Control -- Select the desired function and DVME will perform the function immediately (allow up to 30 seconds for the function to take affect)
- Status Display -- shows the current status of the selected DVME. Please note that DVME does not update status when it is idle.

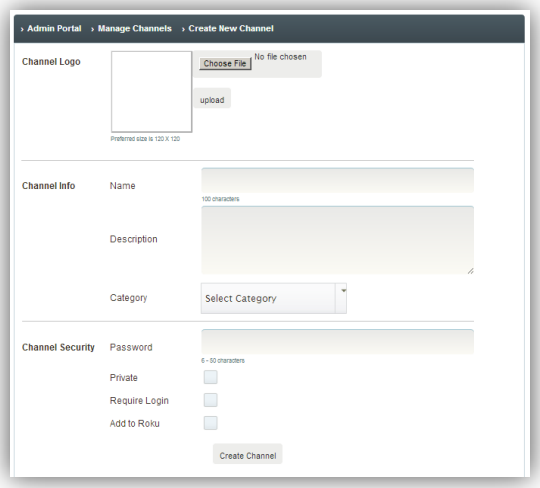
Channels

A "Channel" is a unique collection of live and/or on-demand videos. Any admin can create as many channels as desired. For example, if you have uploaded many videos about "math" and many videos about "science", you may wish to create a "Math Channel" that contains only math videos, and a "Science Channel" that contains only science videos. Each channel has embed code available.


› Admin Portal › Manage Channels
SeenOnTheRoad
Category: Other
Desc:The Adventures Of A Salesperson.
Views: 0 Added:3/16/2013 10:22:51 PM Password: None
7
Added
Add/Remove Video On Demand - Add/Remove Live Videos - Add/Remove Shared Videos
Edit Channel - Delete Channel
DVTest
Category: Tech
Desc:Content Used For Testing
Views: 0 Added:3/11/2013 5:10:24 PM Password: None
9
Added
Add/Remove Video On Demand - Add/Remove Live Videos - Add/Remove Shared Videos
Edit Channel - Delete Channel
Mavro
Category: DiscoverVideo
Desc:A Collection Of Live And VoD
Views: 0 Added:3/3/2013 12:03:45 PM Password: None
88
Added
Add/Remove Video On Demand - Add/Remove Live Videos - Add/Remove Shared Videos
Edit Channel - Delete Channel
1

Create Channel

Select "Add Channel" to create a new channel. Select an image for your channel and upload it, then enter a name and description for your channel. *Your channel name cannot contain any spaces or special characters*.

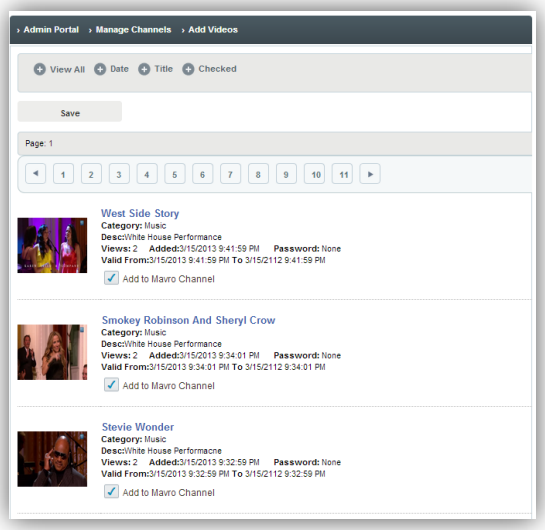


- Category -- Select from the list
- Password -- Enter an optional password that users will enter to view your channel
- Private -- Check to not show your channel in the DEVOS home page
- Require Login -- Check to require viewers to login to view your channel
- Add to Roku -- Check if this channel is to appear on Roku (see Roku Chapter)

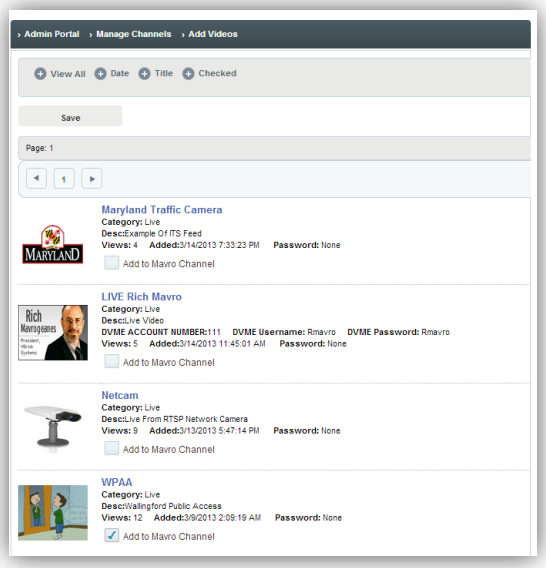
Manage Channel Content

Select Add/Edit Video On Demand for your channel and simply check any video that you wish to include in your channel, then press Save.

You can quickly see which content is already included in your channel by sorting by "Checked".


› Admin Portal › Manage Channels › Add Videos
View All Date Title Checked
Save
Page: 1
1 2 3 4 5 6 7 8 9 10 11
West Side Story
Category: Music
Desc:White House Performance
Views: 2 Added:3/15/2013 9:41:59 PM Password: None
Valid From:3/15/2013 9:41:59 PM To 3/15/2112 9:41:59 PM
Add to Mavro Channel
Smokey Robinson And Sheryl Crow
Category: Music
Desc:White House Performance
Views: 2 Added:3/15/2013 9:34:01 PM Password: None
Valid From:3/15/2013 9:34:01 PM To 3/15/2112 9:34:01 PM
Add to Mavro Channel
Stevie Wonder
Category: Music
Desc:White House Performacne
Views: 2 Added:3/15/2013 9:32:59 PM Password: None
Valid From:3/15/2013 9:32:59 PM To 3/15/2112 9:32:59 PM
Add to Mavro Channel

Select Add/Edit Live Video for your channel and simply check any video that you wish to include in your channel, then press Save.



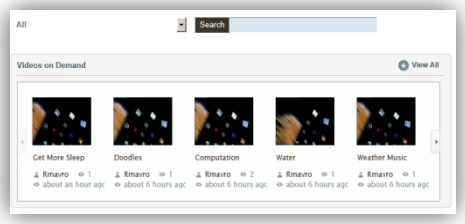
Similar to Video on Demand and Live Video, select Add/Edit Shared Video for your channel and simply check any video that you wish to include in your channel, then press Save.

Showing Your Channel

Every channel has a unique URL, which is http://[server]/channels/[channel]

For example, if you create a channel called "mathclass", then your channel can be found at
http://[sever]/channels/mathclass

Your channel can be found on the DEVOS home page too, unless it is marked "Private" in which case it does not appear and you can only find it using the URL.



Channel embed code shows only the VoD content. This allows you to place live video independently using the live video embed codes.

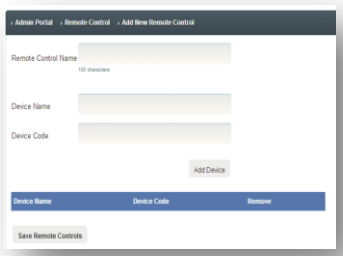
Your channel will appear on Roku set top boxes if the channel has Roku checked and depending on how you have your Roku set up. See Roku chapter.

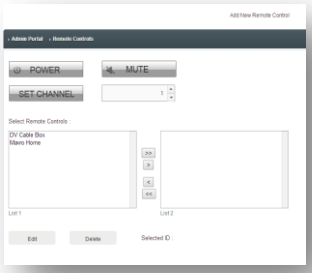
Remote Control

DEVOS can control many 3rd party devices, such as TVs, DVD players, Cable-TV boxes, etc. The purpose of such control is to cycle power or change channels. The control is not for "channel surfing" where you are watching a Cable-TV channel and change the channel, but to administratively change the channel or power status.

The control requires a "Spitfire" device connected to a PC or Soft Top Box via USB or RS232, where the "Spitfire" device emits an IR signal that the controlled device can receive. Setup the "Spitfire" device using instructions provided below.

Start by selecting Add New Remote Control and give your device a Remote Control Name (e.g. "My TV"), a device name (e.g. "My TV"), and optionally the Device Code if known. Select Add Device, then Save Remote Controls.





The devices will show in the list 1 box. Select one device from list one and note the Selected ID is displayed. This ID must be entered in the Remote Control program that is controlling the target "Spitfire" device. Note that you can use the same ID for all "Spitfire" devices if you never intend to control them independently. To control a device, select the device from List 1 and add it to List 2. Then select Power or Set Channel to control the device(s). Control may take 30 seconds.

Example 1
There are 20 TV's in a building, and each has its own device code. You wish to turn them all on or off. Select the 20 devices from List 1 and add them to List 2, then select "Power".

Example 2
There are 20 TV's in a building, and they are all using the same device code. You wish to turn them on or off. Select the device from List 1 and add it to List 2, then select "Power".

NOTE: Power for all IR devices is a toggle. If the device is on and you toggle power, you turn it off. If someone controls the device manually, you may get out of sync.

DV Remote Control Program

The remote control program communicates with your DEVOS system and issues IR commands to your device. The program should be installed on a Windows computer near to the device you wish to control (such as a Soft Top Box computer). Using the DV Remote Control program, you must configure the Spitfire to use the desired device code.

Connect the Spitfire to the computer via USB or RS232, then start the DV Control program. The program will automatically scan your computer's ports to find the Spitfire. Once the Spitfire is found, the status will say "Connected".

Next, select the type of device you will control (TV, VCR, DVD, Audio "AUD", Cable-TV box "CBL", or other "AUX"). Next, select the manufacturer from the drop-down list (you can also select "All", but scanning for all devices can take a long time).

With the Spitfire aimed at the controlled device (or with the remote IR emitter positioned on the controlled device), select "SEARCH DEVICE". This will cause the program to cycle through the built-in device library and issue a Power command every few moments: when you see the power on the controlled device toggle, quickly select STOP SEARCH then CAPTURE DEVICE. This will cause the program to use and remember the proper device code, which you can view by pressing "Get Device No".

You should verify that the Power and number functions work for your device. Please note that for entering numbers, you must select them quickly because the device code will be sent two seconds after the first number selection.

If you discover that a number key does not work properly, you can learn the IR code by holding the device's IR Remote Control in front of the Spitfire, then press "LEARN", then the desired number key, then hold down the device's IR Remote Control key for two seconds or until you see two LED blinks. After this, Spitfire will output the new learned IR command for that key. Finally, select "Remote Server Setting" and enter your DEVOS address (without "http://") and the DEVOS Remote Control ID, as described above.

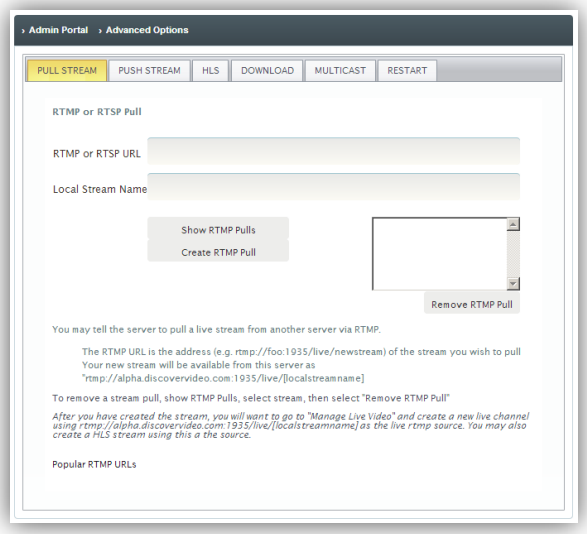
The program will remember the settings and will start upon computer boot up.

Now you may control your device from DEVOS. Note that you may have as many DV Remote Control programs using the same ID control code as desired, or you may use a different code for each device.

Advanced

Pull Stream

DEVOS can be used to deliver live streams from the public Internet to multiple viewers in your network without each user connecting to the public Internet. This is useful to prevent overloading your Internet access connection and is commonly used for popular live content. To do this, DEVOS can "pull" one stream from the public Internet and deliver it to the computers on your network.


› Admin Portal › Advanced Options
PULL STREAM
PUSH STREAM
HLS
DOWNLOAD
MULTICAST
RESTART
RTMP or RTSP Pull
RTMP or RTSP URL
Local Stream Name
Show RTMP Pulls
Create RTMP Pull
Remove RTMP Pull
You may tell the server to pull a live stream from another server via RTMP.
The RTMP URL is the address (e.g. rtmp://foo:1935/live/newstream) of the stream you wish to pull
Your new stream will be available from this server as
"rtmp://alpha.discovervideo.com:1935/live/[localstreamname]
To remove a stream pull, show RTMP Pulls, select stream, then select "Remove RTMP Pull"
After you have created the stream, you will want to go to "Manage Live Video" and create a new live channel using rtmp://alpha.discovervideo.com:1935/live/[localstreamname] as the live rtmp source. You may also create a HLS stream using this a the source.
Popular RTMP URLs

- RTMP or RTSP URL -- required. The target inbound RTMP or RTSP stream
- Local Stream Name -- required. The name of the new stream on the server. You can make up any name you wish as long as it is not currently in use. You will want to add this as a live stream to the system.
- Show RTMP Pulls -- shows configured streams.
- Create RTMP Pull -- creates the stream using the entered values
- Remove RTMP Pull -- removes the stream shown. Select "Show RTMP Pulls", then select the one you wish to remove.

Example:

1) Enter rtmp://cp76072.live.edgefcs.net/live/MED-HQ-Flash@42814 for the RTMP URL (known to be available as of winter of 2012)

2) Enter "NASA" for the Local Stream Name

3) Select Create RTMP Pull

4) Verify the pull was created by selecting "Show RTMP Pulls"

The stream "NASA" now exists as a live stream inside DEVOS. Next we must create a live stream to display it

5) Go to Manage Live Video and select "New Live Stream"

6) Fill out the live stream form with Title, Description, etc.

7) For the Live RTMP URL, enter: rtmp://[serveraddress]/live/NASA

8) For the Live HLS address, enter: http://[serveraddress]/autohls/NASA/NASA.m3u8

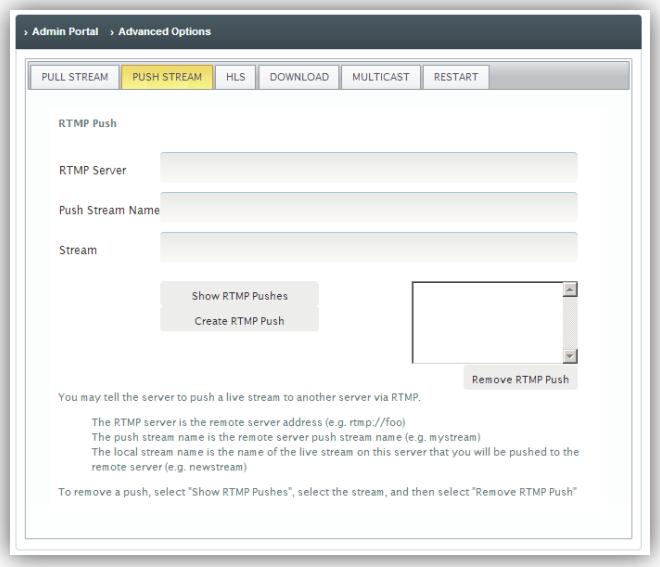
9) Search Google Images for a thumbnail URL and copy the URL of the image (not the web page) to the Thumbnail field.

10) Select Add.

You now have NASA-TV available via DEVOS for both desktop and iOS devices. Note that DEVOS will pull this stream 7 x 24 until you remove the pull.

Push Stream

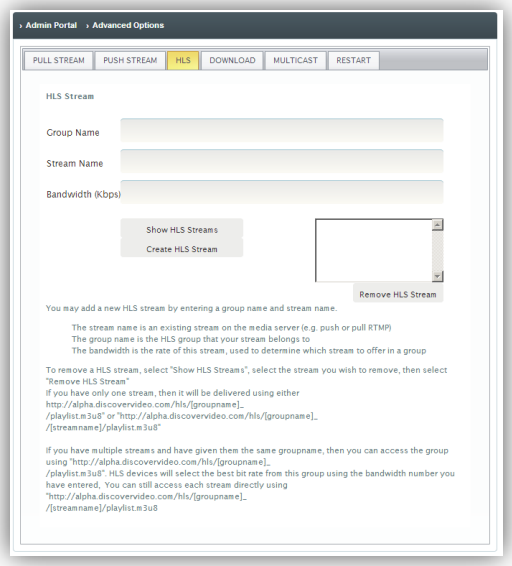
DEVOS can push an existing live stream to another server, Discover Video Arcus streaming system, or 3rd party CDN. This is commonly used to make a live video stream available on the public Internet for large scale audiences.


› Admin Portal › Advanced Options
PULL STREAM
PUSH STREAM
HLS
DOWNLOAD
MULTICAST
RESTART
RTMP Push
RTMP Server
Push Stream Name
Stream
Show RTMP Pushes
Create RTMP Push
Remove RTMP Push
You may tell the server to push a live stream to another server via RTMP.
The RTMP server is the remote server address (e.g. rtmp://foo)
The push stream name is the remote server push stream name (e.g. mystream)
The local stream name is the name of the live stream on this server that you will be pushed to the remote server (e.g. newstream)
To remove a push, select "Show RTMP Pushes", select the stream, and then select "Remove RTMP Push"

- RTMP Server -- required. The server that you will push to
- Push Stream Name -- required. The name of the stream on the remote server
- Local Stream Name -- required. The existing live stream name
- Show RTMP Pushes -- displays configured push streams
- Create RTMP Push -- creates an RTMP Push using entered values
- Remove RTMP Push -- removes the RTMP push using the entered values. Select "Show RTMP Pushes", then select the one you wish to remove.

Create HLS

DEVOS automatically delivers live video to iPhone, iPad (iOS) and similar HLS-capable devices. In some cases, you may wish to manually create HLS streams for adaptive bit rate (ABR) support. It is important to remember that HLS streams can only be created from live streams that exist in DEVOS.


› Admin Portal › Advanced Options
PULL STREAM
PUSH STREAM
HLS
DOWNLOAD
MULTICAST
RESTART
HLS Stream
Group Name
Stream Name
Bandwidth (kbps)
Show HLS Streams
Create HLS Stream
Remove HLS Stream
You may add a new HLS stream by entering a group name and stream name.
The stream name is an existing stream on the media server (e.g. push or pull RTMP)
The group name is the HLS group that your stream belongs to
The bandwidth is the rate of this stream, used to determine which stream to offer in a group
To remove a HLS stream, select "Show HLS Streams", select the stream you wish to remove, then select "Remove HLS Stream"
If you have only one stream, then it will be delivered using either
http://alpha.discovervideo.com/hls/[groupname]_/playlist.m3u8" or "http://alpha.discovervideo.com/hls/[groupname]_/[streamname]/playlist.m3u8"
If you have multiple streams and have given them the same groupname, then you can access the group using "http://alpha.discovervideo.com/hls/[groupname]_/playlist.m3u8". HLS devices will select the best bit rate from this group using the bandwidth number you have entered, You can still access each stream directly using "http://alpha.discovervideo.com/hls/[groupname]_/[streamname]/playlist.m3u8

- Group Name -- required. The group name for ABR, or enter the stream name if it is not ABR.
- Stream Name -- required. The existing stream name on the server. For example, you have a live stream called "live1" and you wish to add HLS: enter live1.
- Bandwidth -- required. Used for ABR only, enter any value, but best to enter the actual (approx) rate of the live stream if known.
- Show HLS Streams -- displays all configured HLS streams
- Create HSL Stream -- creates an HLS stream using the entered values
- Remove HLS Stream -- removes the HLS stream using the entered values. Select "Show HLS Streams", then select the stream you wish to remove.

Your HLS URL is always:

http://[server or Ip]/hls/groupname/streamname/playlist.m3u8

Example

You send two streams to DEVOS with the same live content, but one is encoded at 200 Kbps and another at 1000 Kbps. The first stream is called "live1" and the second is called "live2". You create an HLS stream with group name "myevent" and you add "live2". You create another HLS stream *also with group name "myevent"* and you add "live2". You give iOS viewers the URL: http://[serveraddress]/hls/myevent/playlist.m3u8

iOS will automatically detect the stream that is best for the viewer (3G users may get the 200 Kbps stream while WiFi users may get the 1000 Kbps stream).

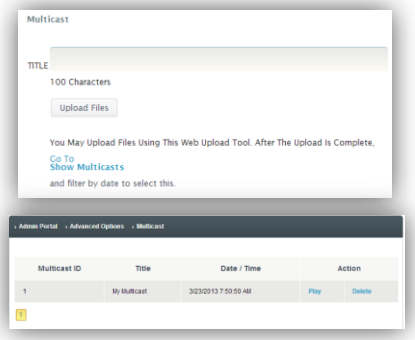
Download

Select Download to access downloadable programs and utilities. You must have access to the public Internet.

Multicast

DEVOS supports live video streaming via IP Multicast. A multicast is configured by uploading a .sdp file. See the Multicast Admin section.

To create a multicast, enter a page title, then upload your .sdp file.



Select "Show Multicasts" to view available streams. Select "Play" to open the player page and view the live multicast stream (the player page uses QuickTime which must be installed on the viewer's computer, and of course the live multicast stream must be available). You *must* send the DEVOS multicast viewing page URL to potential viewers via email or other means.

Multicast viewing is not currently available in the main DEVOS interface, mobile devices, Digital Signage, or Roku. Multicast is normally not available to WiFi viewers and multicast may or may not be supported on your LAN.

Each multicast is defined by a uniquely named .sdp file. The .sdp file contains the video values required to play the live multicast stream. If you change a video value in the encoder (e.g. resolution), you must upload the revised .sdp

file. For example, you might upload live1.sdp, make changes to your encoder, delete the prior upload, then upload live1.sdp again.

Restart

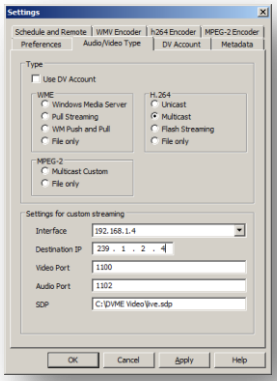
The Restart function will cause the media server to restart. This is rarely necessary but may be used in case of a system error.

Multicasting via DVME

DVME can be set to deliver live video via IP Multicast. Multicast is an efficient one-to-many networking technology that is similar to a broadcast except the data only goes to computers that request it. You can easily support a live broadcast to an unlimited number of viewers using the same bandwidth as if there were only one viewer, provided your local network is configured to support multicast (IGMP protocol).

To deliver a multicast, configure DVME for H.264 multicast as shown below. Select a class D IP address such as 239.1.2.3 and set an odd port number for video and an even port number for audio.

Begin to stream your live video and DVME will create the SDP file in the desired folder (default C:\DVME Video\live.sdp). If you have multiple DVME's doing multicast, be sure to give each sdp file a different name (e.g. "live1.sdp", "live2.sdp", etc.). This file tells video players how to receive the multicast stream and how to decode the audio/video.



Upload the .sdp file to DEVOS and distribute the DEVOS multicast viewing page.

iPad Streamsie®

Streamsie is an application for iPad that allows you to record live video and upload it to DEVOS.

Streamsie is available from the Apple iTunes store. Simply enter your DVME streaming account settings, for example:

Server:	http://123.123.123.123/dvme
Account:	your DEVOS account (e.g. 321321)
Username:	myuser
Password:	mypassword

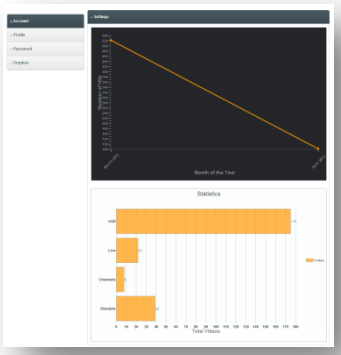
Optionally, set the encoding rate and resolution. Press the button to record, and again to stop. After recording, you can enter a title, description, author, and select whether you want to publish it to your DEVOS account upon upload (e.g. make it available for immediate viewing), and whether a viewer must log in to view it.

To upload, select the upload folder icon and choose the videos you wish to upload, then press the upload button.

Your streaming account settings are created by an Admin using Manage Live Video -> Add New DVME Account. You may use the exact same account used for an existing DVME.

Admin Profile

Each Admin has their own profile. They can view statistics about their content by selecting "Account". They can change their display name and profile picture by selecting "Profile", they can change their password by selecting "Password" (for non-Active Directory users), and they can configure their Google Drive and Dropbox account.



Chapter 3:
Viewer Operation

User Interface

The viewer interfaces are virtually identical when viewed on computers using IE, Firefox, Chrome, or Safari, and on iPad.

Desktops require Flash player V11 or greater if using Flash player, or a modern browser if using HTML5.

The initial page presented requires user login, and allows guest access. Guests have access to any content that has not been marked as requiring login (although any content may require password).

Latest Videos -- list the most recent videos added to the system

Video of the Day -- shows the video as configured by the super admin

Live Streams -- list the live content

Channels -- list the available channels

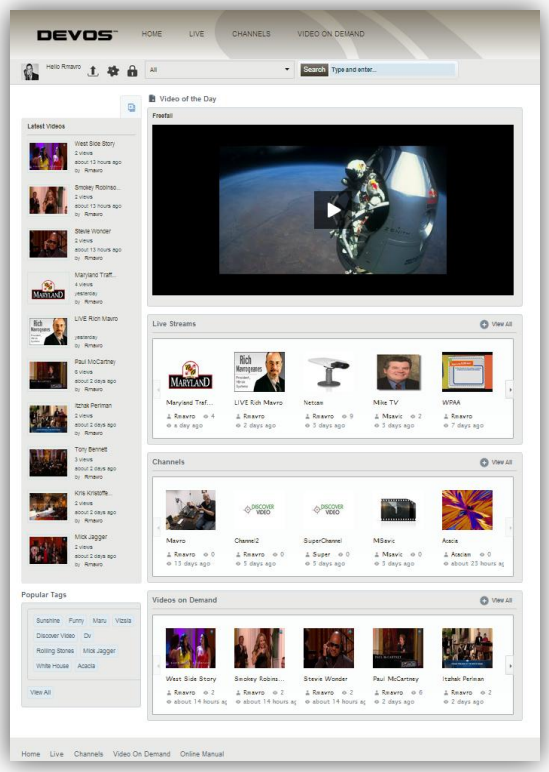
Videos on Demand -- lists the available VoD content

Popular Tags -- links to the most popular content tags

Search -- Searches content for matches in the title, description, or author

Upload Icon -- only available if logged in as admin

Change Password -- only available to non-guests

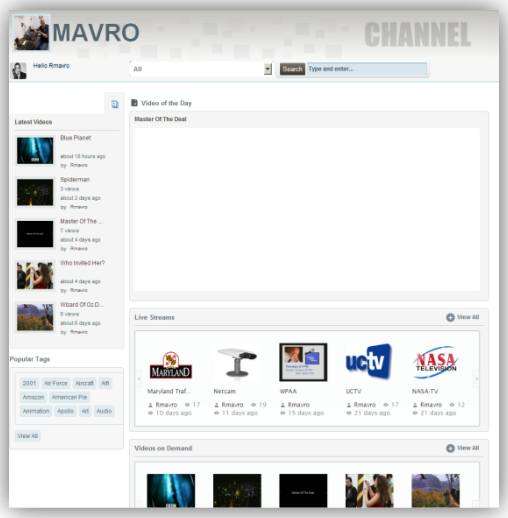


Mobile Viewing

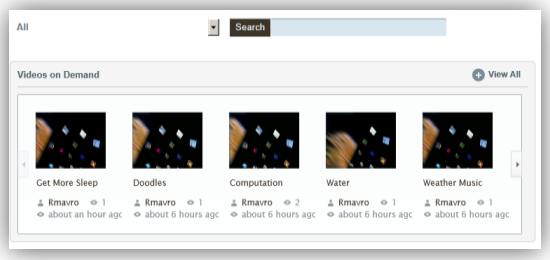
DEVOS is fully compatible with iOS and most other mobile devices. Unfortunately, live video on Android can be an issue depending on the device manufacturer and version.

Viewing Channels

In many cases, you will want to distribute the URL for channels. For example, rather than having viewers access the main viewing page, you want them to access a particular channel that includes only certain videos. Navigation of the channel page is similar to navigation of the DEVOS home page.



When using the Channel Embed Code, only the VoD content is shown. For live content, you can use the embed code for each live video.



Roku

DEVOS channels can be viewed via the popular, inexpensive Roku box. This capability represents a breakthrough in enterprise video because you can now buy your Set Top Box from a local retailer (e.g. Best Buy, Radio Shack, Walmart, etc.) or online for less than US$100.

DEVOS provides a private Roku channel that is defined by simply inserting a USB dongle into the Roku box (the box must have USB port, older boxes do not). The USB dongle communicates with the DEVOS server and displays one DEVOS channel. This allows you extra control in what a Roku box can display, and makes it easy to deploy these boxes in classrooms and other locations.

The Roku box can display one channel, all channels, or all channels created by one admin. For example, an admin named "john" has created channels "Math", "Science", "History", and "Geography". Another admin created channel "English". The Roku can be told to display channels created by everyone (Math, Science, History, Geography, English) , just all of John's channels (Math, Science, History, Geography), or just one named channel (English).

How to deploy Roku boxes

- Configure your box to display the DEVOS channel by using this link: https://owner.roku.com/add/EC8FT
- Create your DEVOS channels. View your channels on desktop.
- Contact Discover Video and provide the server address and either the admin name if you want to include all of that admin's channels, the channel name if you want to include only one channel, or all channels if you want to show all.
- Discover Video provides USB dongles. Simply insert them into each Roku box.
- Navigate the Roku interface using Roku remote or iPhone app, and select DEVOS. Your live and VoD channels appear. Select to view your live and on-demand content.

NOTE: YouTube content will not appear on Roku channel do to apparent disagreement between Roku and Google.
The USB dongle for Roku may be configured to tell the box to display:
- All channels, OR
- All channels from one admin, OR
- One channel

You must specify your configuration when ordering the dongle(s)

APPENDIX

Copyright Issues

It is both illegal and wrong to make unauthorized copies of copyrighted material without permission. You should follow advice of your council, but the following is provided as a starting point:

- The Fair Use doctrine and the Teach Act (please search these terms on the public Internet) allows for use in certain cases, especially for educational use and especially when only portions (clips) of a copyrighted work is used.
- You can easily create your own content using DVME and with other tools in which case you may elect to declare a copyright. Here is the create commons web site you may wish to explore: http://creativecommons.org/choose/
- You can generally deliver over-the-air broadcast TV (content received via an antenna and encoded and delivered via DEVOS) without issues, provided the viewers are in the same broadcast area. Most "cable TV" providers allow private distribution too.
- The interface for commercial HDMI ports, such as Blue-Ray players and Cable Set Top Boxes, is encrypted and cannot be captured. Cameras with HDMI are not encrypted. Analog interfaces (composite, SVideo, Component RGB) are not encrypted.

Encoding Content for VoD

You can encode your content for VoD delivery using several methods.

- Play the content from a tape player, DVD, BlueRay, or other device that delivers the content to an audio/video output. Use DVME to create a digital version and post it to DEVOS with appropriate metadata.
- Convert (or "Rip") the private DVD or digital file to a standard H264 (MPEG-4 part 10) video file with an MPEG-4 container (.mp4 file type). Be sure to encode the video at streaming rates (e.g. < 1 Mbps).

- Use a video editor and output ("save as / render") the video as H264 for streaming. Some editors have presets for "iPad" compatibility that may work well for you.

NOTE: Just because a video file may play on your computer does not mean it is a "good" file for VoD. The file for VoD delivery must be of the proper format, have the MOOV atom at the head of the file, and if it does not play via VoD you can conclude it is not a "good" file. A "bad" file may exhibit any of the following behaviors: will not play via streaming; progressive playback will not start for a very long time; no audio or no video; does not display on iOS; video is broken up; will not play at all; audio/video is out of sync.

Encoding Parameters

For best results, follow these guidelines for encoding:

- Use the lowest bit rate that give acceptable quality. There is little point in using high bit rates for "talking head" videos that have little motion. Generally, a rate of about 500 Kbps is sufficient for most standard definition content, and about 1,200 to 2,000 Kbps for high definition content.

- You can use any output resolution, however the most common format is 640 x 480 for SD 4:3, and 640 x 360 for SD or HD 16:9. Encoding resolution does not affect the size of the video that is displayed, it only affects how much information is in the video.

- Use keyframes (I-Frames) at least every 10 seconds. More keyframes means lower compression but higher resiliency. Set your reference distance (P-Frames) to 2, 3, or 4. You may use B-Frames to increase compression if desired but is usually better to have no B frames. A typical value for DVME is a keyframe setting of 25 to 60.

- For iOS compatibility, be sure to use AAC audio. Older encoders such as "Tricaster" and older free "FLME" software encoders do not support AAC.

Streaming vs. Progressive Video-on-Demand

DEVOS allows you to configure each video for either streaming delivery or progressive play.

Streaming causes the video to be delivered to the player at the same rate it was encoded. If the video was encoded at 1,000,000 bits per second, then it will be

delivered at 1,000,000 bits per second, and the viewer must have 1,000,000 bits per second of network capacity for the duration of the video.

Progressive play causes the video to be delivered to the player as quickly as network conditions allow, typically much faster than the video's encoded rate. The player must wait for enough data to arrive before it can being playing the video, and the data is temporarily stored in the player's buffer.

With streaming, the server and the player are in constant communication and the player has no more data than it needs at any given instant. With progressive, the server delivers the data to the player as quickly as it can and there is no further player/server dialog. Streaming is more efficient because no video data is delivered to the player that the viewer does need, while progressive delivers the all video data to the player whether the entire video is viewed or not.

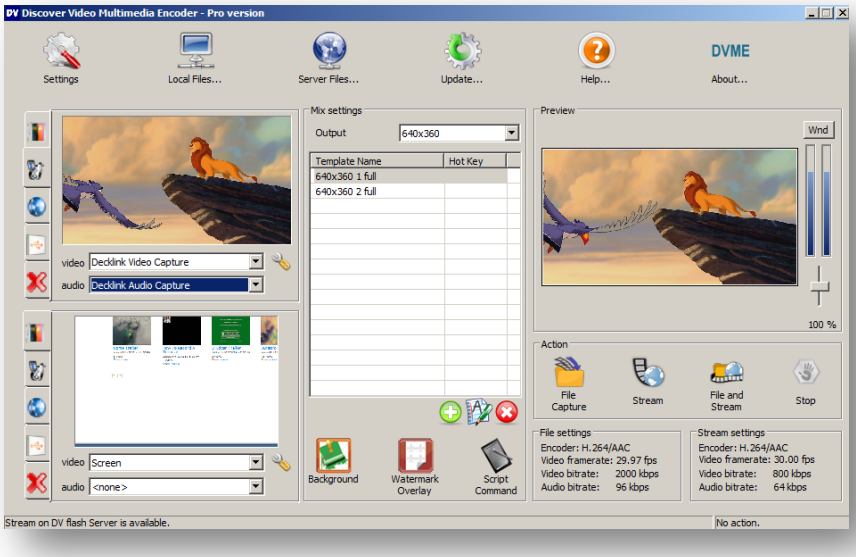
Progressive viewing via Flash player does not allow seeking (moving the slider bar or using bookmarks) beyond the portion of the video that has been received, while streaming allows instant navigation to any part of the video. This tends to be a non-issue for small video files and on fast networks, but can become an issue for very large video files and on slow networks. In the enterprise, where bandwidth is free and plentiful, progressive is a good choice because the delivery to the player would be very fast; an entire 1-hour video may arrive in the player in a few seconds. On more bandwidth-limited networks, such as the public Internet, streaming is often a better choice.

General Guidelines

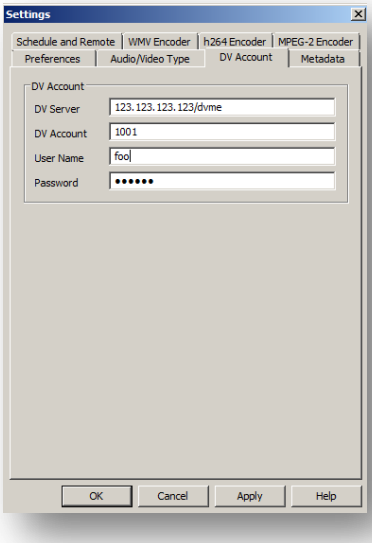
- Select Progressive for any video encoded at very high rate, such as a high definition video encoded at 5 Mbps
- Select Progressive for popular videos if you encounter system capacity issues: videos will still be delivered but more slowly while streaming may deliver videos with excessive player buffering (pauses during play).
- Select Streaming for very long videos where instant navigation is needed

DVME

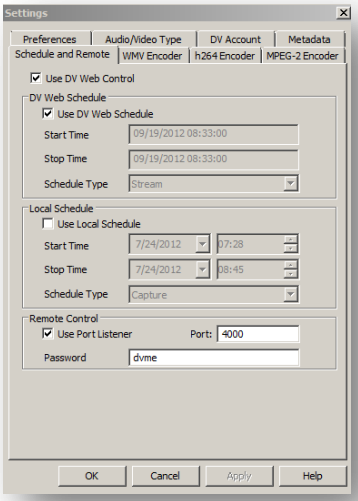
The Discover Video Multimedia Encoder (DVME) is the primary vehicle used by DEVOS for live video streams, for creating VoD content, and for recording live events.



After installing DVME, and assuming you have created streaming accounts, select Settings, DV Account, and enter the values shown in the DEVOS Manage Streaming Account page:

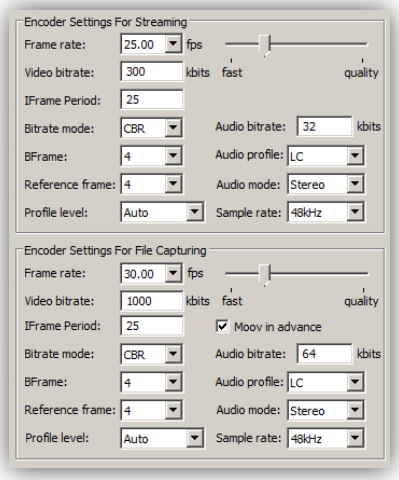


Set DVME Preferences to Use DV Web Control and Use DV Web Schedule as shown below to enable DEVOS to remotely control the DVME:



DVME provides many options to stream and/or record live video from one or two sources including a camera, desktop screen, VGA/DVI input, remote stream URL, etc. Please review the DVME product manual for detailed instructions and information.

A good starting point for H264 Encoder values are:



Using DVME to Record From Tape or Video Disk

You can easily use DVME to capture any video source, including the video output of a tape player, camcorder, video disk player, or other video source. Simply connect the audio/video source to the DVME input device (e.g. USB dongle, video capture card), set desired H.264 video file capture values, and select "File Capture". When done select "Stop".

Be sure to disable DVME Settings / Schedule and Remote, Web Control when operating DVME locally.

Useful Tip

If you know the duration of a tape, you do not need to sit and watch the whole video while you wait to press "Stop". Use the DVME Remote Control to record for a specified duration.

Using DVME to Record From Computer Screen

DVME can record any video that you can play on your computer screen. This is very useful for capturing 3rd party live video streams, to capture videos that cannot be converted from file, etc. Simply use the DVME screen capture setting, set the capture area for the area of the video player used, and start your capture. For audio, if your computer has a "Mix Audio" setting, you should select it and ensure the DVME audio level indicators are moving. If your computer does not have an audio mix setting in the DVME audio selection dropdown list, you may need to use a "patch cord" to connect your computer's headphone output to your computer's line input and make necessary audio level adjustments (typically, you must disable "Microphone Boost" in your audio control panel).

Internet Bandwidth

DEVOS can deliver the live and VoD content to users on the public Internet as well as users in your local network, provided Internet users can reach the DEVOS server (i.e. DEVOS is available on an "outside" IP address).

In your local network, bandwidth is generally free and plentiful and bandwidth bottlenecks are usually not a concern. However, when delivering video to Internet viewers, each viewer will use your Internet access connection and will consume

bandwidth equal to the streaming rate. For example, if you have a live stream running at 500 Kbps, then six simultaneous viewers will consume 1.5 Mbps -- the capacity of a T1 line. 100 live viewers will consume 50 Mbps.

To deliver live video to a large Internet audience, you should consider using DEVOS Advanced "Push" function to send your live video stream to the Discover Video streaming service. This allows you to send just one stream to the Internet. Your viewers can still receive it from your DEVOS, but the bandwidth would come from the service.

DEVOS Capacity

The capacity of your DEVOS depends on the hardware you have purchased, your live and VoD streaming rates, and your network. For DEVOS Cloud accounts, your capacity is determined by the service you have purchased. Here are some general capacity guidelines:

- DEVOS is commonly shipped on hardware that supports 4 or 6 CPU's ("cores"). More CPU capacity provides faster service during moments of peak activity. Depending on rate, network, and CPU, DEVOS supports at least 1,000 live viewers. Your limit is likely to be the network interface, which is a 1 Gbps Ethernet port.

- VoD content delivery capacity is affected by disk I/O access speeds. Defragmented disks and fast spindle speeds improve VoD performance, and video files with lower encoding rates require less disk I/O than files encoded at higher rates (e.g. standard definition is easier than high definition). Most DEVOS systems can deliver to at least 1,000 viewers, up to the network capacity.

- Overall performance is affected by network capacity. A 10 Mbps Ethernet connection can support about ten 1 Mbps streams, a 100 Mbps Ethernet connection can support about one hundred 1 Mbps streams, and a 1 Gbps Ethernet connection can support about a thousand 1 Mbps streams. At 500 Kbps, these capacity numbers double, making CPU and disk performance more important.

- If your DEVOS hardware supports RAID, you can increase storage capacity by adding hard disk drives. If your DEVOS does not support RAID, you cannot increase storage capacity. You cannot use an external USB drive for video storage.

- You can increase live streaming capacity for branch offices or any location where there are multiple viewers by using the DEVOS Jumper ("slave" units).

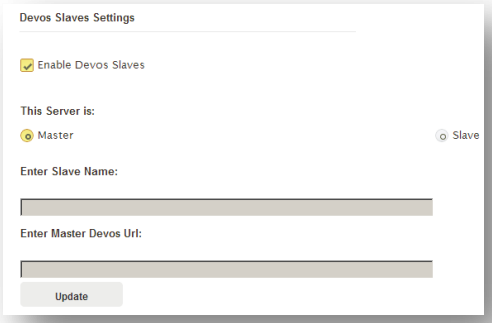
Master / Slave

DEVOS supports up to 1,000 slave units. A DEVOS slave is a DEVOS server placed at a remote location such as a corporate branch office, school, or other location where there are multiple viewers.

The slave is plug-and-play after setting it with the DEVOS master address. It contacts the master and exchanges information automatically. Selected live videos that are available in the master are then pulled to the slaves, and any viewer in the same network as a slave will receive the live video from the slave rather than from the master. Thus, if a live stream is 500 Kbps and there are 100 branch office viewers, the branch office will use only 500 Kbps for all viewers rather than 5 Mbps (500 Kbps x 100). The DEVOS master operates normally and collects all viewing statistics, including the current count of live viewers, from all slave units. If you are not in the branch office, then your live video and the viewing web page is delivered from the master; if you are in the branch office, then your live video is delivered from the slave and the viewing web page is delivered from the master.

Usage Tips

- Upon connection, the slave will start pulling selected live video after approximately two minutes
- Upon disconnect of the slave, the master will return to delivering live video from the master in approximately four minutes
- You can tell if you are receiving the live video from the local slave rather than from the master if the background color of the live desktop player is dark blue, and from the master if the background color is grey.
- Setup slaves by selecting DEVOS Slaves using the Super admin account. For master, simply select "Enable Devos Slaves", and select "Master". For slaves, select "Slave" and enter a name for the slave, and enter the URL for the master (e.g. http://yourdevos.com, or http://123.123.123.123)



FTP Upload and Metadata Files

Every DEVOS administrator also has a FTP account on the DEVOS server. To use the FTP account, use the DEVOS server address, and your admin username and password in virtually any FTP program such as "Filezilla", "CuteFTP", etc.

You may then upload a .mp4 video to your account. After the upload is complete, your video will appear as "New" in the Manage Video On Demand list in a few minutes. You may then add desired title, description, etc.

DEVOS will automatically delete files it does not recognize.

You can automatically set the publishing values by including a .xml metadata file with the video file. The .xml file must have the same name as the video but end with ".xml". For example if you upload a video "myvideo.mp4" then your metadata file must be named "myvideo.mp4.xml". The contents of the .xml file *must be* as follows:

```
<Properties>
    <Title>My Title</Title>
    <Description>Performance at the White House</Description>
    <Artist>The Author</Artist>
    <Width>640</Width>
    <Height>360</Height>
    <Rating>publish</Rating>
    <comments>true</comments>
    <rate>true</rate>
    <showhits>true</showhits>
    <showlastview>true</showlastview>
    <requirelogin>false</requirelogin>
    <showbookmark>true</showbookmark>
    <category>other</category>
    <channel>My Channel</channel>
    <publish>true</publish>
</Properties>
```

- title -- the title of the video
- description -- the description of the video (250 char max)
- artist -- the author of the video
- width & height -- the size of the video
- rating -- include the word "publish" to make the video available, otherwise leave blank and the video will be private. This field is used by DVME only.
- comments -- true/false
- rate -- true/false
- showhits -- true/false
- showlastview -- true/false
- requirelogin -- true/false
- showbookmark -- true/false

- category – the category for the video (must exist in category list). Leave blank for category "other".
- channel – the channel where the video will be published (the channel must exist). Leave blank for no channel.
- publish – true or false. If true, then the video will be published, if false (or blank) then the video will be marked private

This FTP feature is very useful to publish many videos and set the metadata values automatically. For example, you may have a library of many .mp4 videos on your computer. Simply create a .xml file for each using any text editor (e.g. notepad). Sort your videos by name and your videos and .xml files will be together. Drag-and-drop your videos and .xml files to a FTP upload program, Dropbox, or Google Drive and all videos will be published per the values you have set in the .xml files.

The Metadata Creator program, available from the Advanced / Download page, makes it easy to create metadata for your compatible video files.

Automatic Server-Side Recording

You can tell DEVOS to always record your live stream. With DEVOS set up this way, a new recording will be made every time you start a stream, and the recording will be available as soon as you stop the live stream.

Setup Steps:

1) Start a live stream

2) Go to Manage Live Video, select the live video, and view it. Select Start Recording. Note that the recording feature is not available until the live stream is running.

3) Stop the live stream, but leave the DEVOS recorder running.

Now, each time you start that live stream, it will be recorded. This automatic recording will end when the maximum duration, set by the Super Admin, is reached. In other words, recording duration begins when you first press the record button, and ends when the duration set by the Super Admin is reached. For example, if the duration is set for 60 minutes, automatic recording will end 60 minutes after recording stops, and during the period DEVOS will create new files each time it detects a new stream.

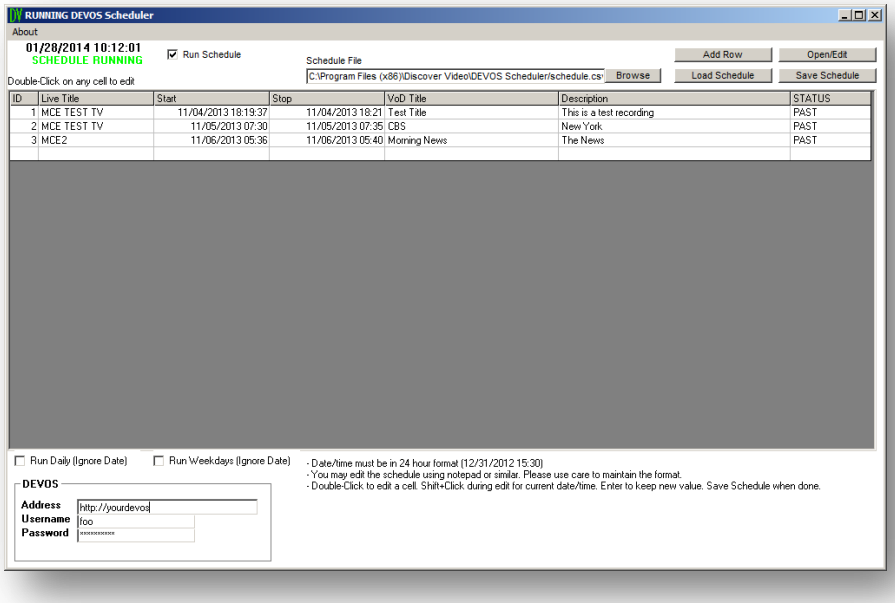
Do not confuse "Server Side Recording" with the recording done by DVME. They accomplish the same thing but each does it differently. Server-side recording can be done with any compatible live encoder, but the quality of the recording will be exactly the same as the live stream. DVME live video may be

recorded on the server (as described above), but DVME can also record at a higher bit rate on the DVME computer and then upload the recording to DEVOS automatically. In some cases it is sensible to do both to ensure that a recording is made, since it is possible for DVME recording to fail if the computer running DVME lost power or crashes for some unknown reason; in this case the server-side recording will be available up to the point where the encoder stopped.

You may schedule server-side recording using the DEVOS scheduling program, available from the DEVOS Admin Help screen.

Scheduled Recording

You can schedule recordings using the DEVOS Scheduler on any PC. Download and install the program, then run it. It will appear similar to the following:


RUNNING DEVOS Scheduler
About
01/28/2014 10:12:01
SCHEDULE RUNNING
Run Schedule
Schedule File
C:\Program Files (x86)\Discover Video\DEVOS Scheduler/schedule.csv
Browse
Add Row
Open/Edit
Load Schedule
Save Schedule
Double-Click on any cell to edit
ID
Live Title
Start
Stop
VoD Title
Description
STATUS
1 MCE TEST TV 11/04/2013 18:19:37 11/04/2013 18:21 Test Title This is a test recording PAST
2 MCE TEST TV 11/05/2013 07:30 11/05/2013 07:35 CBS New York PAST
3 MCE2 11/06/2013 05:36 11/06/2013 05:40 Morning News The News PAST
Run Daily (Ignore Date)
Run Weekdays (Ignore Date)
- Date/time must be in 24 hour format (12/31/2012 15:30)
- You may edit the schedule using notepad or similar. Please use care to maintain the format.
- Double-Click to edit a cell. Shift+Click during edit for current date/time. Enter to keep new value. Save Schedule when done.
DEVOS
Address
http://yourdevos
Username
foo
Password

Edit each line by double-click on a field. When done with a field, press Enter

- Live Title – The *exact* title of a live video as shown in DEVOS
- Start – The start date and time for recording. Must be in the future
- Stop – The end date and time for recording. Must be in the future
- VoD Title – The title for the recording. Will appear in DEVOS after recording
- Description – The description of the video. Will appear in DEVOS after recording

- Run Daily – If checked, then the schedule will run every day regardless of the date setting
- Run Weekdays – If checked, then the schedule will run every day except weekends regardless of the date setting
- Address – the http address of your DEVOS system
- Username – The admin username, same as used to log in to DEVOS admin
- Password – The admin password, same as used to log in to DEVOS admin

You can save and load the schedule using the appropriate buttons. The schedule is simply a conventional CSV file, which you can also edit using notepad or similar.

Select Run Schedule to start. Note that if you edit any line, the schedule stops.

The maximum recording value set by the Super Admin applies for scheduled recordings. This means that if the system max recording time is 60 minutes and you schedule a 90 minute recording, it will stop after 60 minutes.

HTML5 Play

Video-on-Demand playback can be configured for streaming (default) or progressive playback, and the viewer can optionally select to view the video using Flash player or HTML5 player.

HTML5 viewing uses progressive delivery, but allows for navigation of a video without having to buffer it: the player tells the DEVOS server what part of the video to send when the viewer moves the player slider bar. However, for some administrators, HTML5 playback can represent a security issue because it easily allows the viewer to download can copy the video file. In many cases this is desirable (e.g. education), but in some cases the administrator may wish to make it difficult to copy the video, so HTML5 can be disabled by the super admin (note that of course, you cannot prevent someone from aiming a camera at their computer screen and copying the content anyway). Also note that HTML5 is available on all modern browsers, but some viewers may have old browsers that does not support HTML5 (e.g. IE 8).

Internet Delivery

DEVOS Cloud, by definition, is an Internet service and delivers video to viewers on the public Internet. Special considerations may be necessary for DEVOS on the premises to deliver content to Internet viewers. These considerations include network configuration, bandwidth, server capacity, and security.

Network Configuration

To configure DEVOS premises to support public Internet viewers, simply ensure the server is on an IP address that is exposed to the public Internet. This can be done by putting the server in your DMZ, or by NAT configuration. Be sure the following ports are open: 80, 1935, 21, and optionally port 3389 for remote support. Also open ports 24 and 25 if clustering is used.

Bandwidth

Delivery of video to public Internet viewers will use a lot of bandwidth, depending on the number of viewers. If you have limited Internet access bandwidth, you should consider using DEVOS cloud for Internet viewers. DEVOS premises can send live video to DEVOS Cloud for Internet distribution. You can also use Discover Video Arcus streaming service for Internet delivery.

If you have sufficient Internet uplink capacity to support your desired number of viewers, exposing your DEVOS to the public Internet is a good solution.

Capacity

Your DEVOS has the capacity to support a large number of viewers, but not 100,000's of Internet viewers. Set your expectation appropriately. In most cases, you will be targeting special, limited audiences (e.g. employees, students, etc.) and not trying to broadcast a rock concert to a million viewers. DEVOS can support an unlimited number of Internet viewers by using Arcus service, where the stream is sent to the Discover Video Content Delivery Network (CDN) for distribution to larger Internet audiences. Live RTMP (Flash) is generally limited to about 1,000 concurrent streams.

Security

Exposing your DEVOS server to the public Internet will inevitably lead to robotic hacker attacks and security issues. Install appropriate anti-virus software on the DEVOS server, only open necessary ports, and follow best practices as you would for any web server exposed to the public Internet.

Roku Persistent Streaming

The Discover Video private Roku channel features persistent streaming. Normally, a Roku box will return to the menu when a video ends or the stream becomes unavailable. With Discover Videos' exclusive persistent streaming, a Roku box will stay on the channel. This means you can use DEVOS with a Roku box set to display a

live channel, and when you start streaming, the video will display; when you stop streaming it will stop display and wait for the stream to return. Persistent streaming allows you to use Roku for unattended decoding, for example to feed a legacy "cable-TV" system, for live TV display in a lobby or common area, etc.